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ABSTRACT

Many recognize the need for an adequate environmental education in the United States. The National Environmental Education Act of 1990 was designed to give federal support to the establishment of an Office of Environmental Education and other support for environmental education. This hearing includes testimony from John H. Chafee, U.S. Senator from the State of Rhode Island; John Denver, Windstar Foundation; William K. Reilly, U.S. Environmental Protection Agency; Gary San Julian, National Wildlife Federation; Terry Wilson, Western Kentucky University; Darryl Roberts; Steven Kussman, Alliance for Environmental Education; and Kathleen Blanchard, Quebec-Labrador Foundation. Prepared statements, supplementary materials, and letters from the American Gas Association, the American Institute of Biological Sciences, Kathleen Blanchard, John Chafee, Peggy Cowan, John Denver, Patty Finch, John T. Grupenhoff, Steve Kussman, Matthew G. Martinez, June McSwain, George Miller, The National Association of Public Television Stations, the National Association of State Foresters, Major R. Owens, John Padalion, William K. Reilly, Darryl Roberts, Gary San Julian, Allan J. West, and Terry Wilson are appended. (CW)

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HEARING ON H.R. 3684, THE NATIONAL ENVIRONMENTAL EDUCATION ACT

ED327388

HEARING

BEFORE THE

SUBCOMMITTEE ON SELECT EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

HEARING HELD IN WASHINGTON, DC, APRIL 19, 1990

Serial No. 101-103

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HEARING ON H.R. 3684, THE NATIONAL ENVIRONMENTAL EDUCATION ACT

THURSDAY, APRIL 19, 1990

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON SELECT EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:10 a.m., in Room 2175, Rayburn House Office Building, Hon. Major Owens [Chairman] presiding.

Members present: Representatives Owens, Martinez, Payne, Jontz, Bartlett and Ballenger.

Staff present: Wanser Green, Laurence Peters, Sally Lovejoy and Theda Zawaiza.

Chairman OWENS. The Subcommittee on Select Education will come to order. I have a brief opening statement.

On Sunday, April 22, Earth Day will be celebrated throughout the world. This year, as a demonstration of a new era of environmentalism, the coordinators of Earth Day are asking each participant to plant and care for at least one tree. In response, as many as one billion new seedlings and saplings are expected to appear across the continent.

Nothing could symbolize better the potential benefits of environmental education than the prospect of new seeds representing new thinking that is nurtured through the educational process.

We fully understand the urgent need to educate, even at the highest levels, especially when we recall that our former President said that, "Approximately 80 percent of our air pollution stems from hydrocarbons released by vegetation." Quoting again, "All of the waste in a year from a nuclear power plant can be stored under a desk." It is our hope that this kind of unenlightened view has been finally put to rest.

The history of Federal efforts to establish an Office of Environmental Education has not been a particularly happy one. We hope that one of the results of today's hearings will be to gain a firm commitment from the Administration to support the implementation of strong and sustainable legislation.

H.R. 3684, the National Environmental Education Act, represents a small beacon of hope that can reverse the neanderthal attitudes about the environment and set us on a path to nurture those values that can secure our future on this planet.

As a new generation of leaders makes its contribution, I'm sure that they will bear in mind President Kennedy's words, "Never

before has man had such a capacity to control his environment, to end thirst and hunger, to conquer poverty and disease, to banish illiteracy and massive human misery. We have the power to make this the best generation of mankind in the history of the world—or to make it the last."

It is indeed fortuitous that we hold this hearing to coincide with Earth Week activities and join efforts to create a new environmentalist era.

I yield to my colleague, Mr. Jontz for an opening statement.

[The prepared statement of Hon. Major R. Owens follows]

OPENING STATEMENT OF HON. MAJOR R. OWENS, CHAIRMAN
HOUSE SUBCOMMITTEE ON SELECT EDUCATION
HEARING ON H.R. 3684, THE NATIONAL ENVIRONMENTAL EDUCATION ACT
APRIL 19, 1990

WE HAVE A DISTINGUSHED LIST OF WITNESSES FOR TODAY'S HEARING, SO I WILL NOT PROLONG THE PROCEEDINGS WITH A LONG OPENING STATEMENT.

ON SUNDAY, APRIL 22, EARTH DAY WILL BE CELEBRATED THROUGHOUT THE WORLD. THIS YEAR AS A DEMONSTRATION OF A NEW ERA OF ENVIRONMENTALISM, THE COORDINATORS OF EARTH DAY ARE ASKING EACH PARTICIPANT TO PLANT AND CARE FOR AT LEAST ONE TREE. IN RESPONSE, AS MANY AS ONE BILLION NEW SEEDLINGS AND SAPLINGS ARE EXPECTED TO APPEAR ACROSS THE CONTINENTS. NOTHING COULD SYMBOLIZE BETTER THE POTENTIAL BENEFITS OF ENVIRONMENTAL EDUCATION THAN THE PROSPECT OF NEW SEEDS REPRESENTING NEW THINKING THAT IS NURTURED THROUGH THE EDUCATIONAL PROCESS.

WE FULLY UNDERSTAND THE URGENT NEED TO EDUCATE, EVEN AT THE HIGHEST LEVELS, ESPECIALLY WHEN WE RECALL THAT OUR FORMER PRESIDENT SAID THAT "APPROXIMATELY 80% OF OUR AIR POLLUTION STEMS FROM HYDROCARBONS RELEASED BY VEGETATION" AND "ALL THE WASTE IN A YEAR FROM A NUCLEAR POWER PLANT CAN BE STORED UNDER A DESK." IT IS OUR HOPE THAT THIS KIND OF UNENLIGHTENED VIEW HAS BEEN FINALLY PUT TO REST.

THE HISTORY OF FEDERAL EFFORTS TO ESTABLISH AN OFFICE OF ENVIRONMENTAL EDUCATION HAS NOT BEEN A PARTICULARLY HAPPY ONE. WE HOPE THAT ONE OF THE RESULTS OF TODAY'S HEARING WILL BE TO GAIN A FIRM COMMITMENT FROM THE ADMINISTRATION TO SUPPORT THE IMPLEMENTA- OF STRONG AND SUSTAINABLE LEGISLATION.

H.R. 3684, THE NATIONAL ENVIRONMENTAL EDUCATION ACT, REPRE- SENTS A SMALL BEACON OF HOPE THAT CAN REVERSE THE NEANDERTHAL ATTITUDES ABOUT THE ENVIRONMENT AND SET US ON A PATH TO NURTURE THOSE VALUES THAT CAN SECURE OUR FUTURE ON THIS PLANET.

AS A NEW GENERATION OF LEADERS MAKES ITS CONTRIBUTION I AM SURE THAT THEY WILL BEAR IN MIND PRESIDENT KENNEDY'S WORDS: "NEVER BEFORE HAS MAN HAD SUCH CAPACITY TO CONTROL HIS OWN ENVIRONMENT, TO END THIRST AND HUNGER, TO CONQUER POVERTY AND DISEASE, TO BANISH ILLITERACY AND MASSIVE HUMAN MISERY. WE HAVE THE POWER TO MAKE THIS THE BEST GENERATION OF MANKIND IN THE HISTORY OF THE WORLD--OR TO MAKE IT THE LAST."

IT IS INDEED FORTUTIOUS THAT WE HOLD THIS HEARING TO COINCIDE WITH EARTH WEEK ACTIVITIES AND JOIN EFFORTS TO CREATE A NEW ENVI- RONTMENTALIST ERA.

Mr. JONTZ. I want to thank the distinguished Chairman of our subcommittee for conducting the hearing today, and welcome our very distinguished guests.

Mr. Chairman, 20 years ago on the first Earth Day, it was my intention to make a career as an environmental educator, not as a politician. I was working in our state park service at the time as a naturalist and had fully intended to devote my life's work to the very important task that we have ahead of us today.

At that time, a predecessor of mine, representing the Third District of Indiana in the Congress, Congressman John Brademas, who was the Chairman of the Selection Education Subcommittee, introduced and passed into law Public Law 91-516 which was the first environmental education legislation that was approved by the Congress.

As a young student at Indiana University I was then appointed to a task force that our state Superintendent of Public Instruction developed to write an environmental education plan for our state back in the early 1970s. As you know very well, there have been a lot of ups and downs in the area of environmental education.

Since then, we've gone through energy education, and we've proceeded along other tangents, and so it is very timely that today, on the 20th anniversary of Earth Day, we are returning to the subject, to consider H.R. 3684, to hear testimony about the continuing need for environmental education and hopefully to follow through on restoring the proper role for the Federal Government in this process.

No action by the Congress or by the Environmental Protection Agency or by government at any level to improve our environment will be sustainable without the commitment by the citizenry of this country to the environmental ethic, to an appreciation and understanding of our natural environment.

The legislation we have before us can play an important role in bringing about that sort of environmental awareness and environmental ethic, and I look forward to working with you and with the members of the subcommittee in seeing this legislation improved and signed into law.

I thank you again, Mr. Chairman, for conducting this hearing and express my thanks to the witnesses for sharing their viewpoints with us today.

Chairman OWENS. Mr. Payne.

Mr. PAYNE. Thank you very much, Mr. Chairman. First, let me also commend you for calling this hearing on this very important National Environment Education Act.

As we prepare to celebrate the 20th anniversary of Earth Day which this year has really reached tremendous proportions, where young people all over the country are doing significant programs and our governors and our legislators and people are really observing this tremendous effort to focus attention on the environment, I think it's so appropriate that this hearing is being held at this time so that we can focus on this legislation which would educate the public in a variety of ways on environmental issues.

During the past 20 years, as a Nation we've had our consciousness raised with respect to how to keep the air and water clean, how to prevent a depletion of the ozone and the detrimental effects

of our method of waste disposal, just to mention a few issues that have been before us.

The quality of our environment is a global issue. It is complex, and an issue such as population growth and economic development are interrelated and we need to talk about a balance in these very important issues. I believe that an environmentally informed citizenry can learn how to alter its habits to protect the environment while remaining culturally and socially sensitive.

H.R. 3684 responds to a variety of needs to bring about a better educated Nation. The bill includes provisions which range from developing education programs and information dissemination to establishing an environmental education training program which would improve the quality of instruction.

In my own State of New Jersey we are proud of our coastlines and we work harder than most states to keep our beaches clean and safe for use of all of our people. It takes everyone in every community to make sure that they stay that way.

As a co-sponsor of the National Environmental Education Act, I support this effort to have the Federal Government take a leadership role in environmental education. I am looking forward to hearing from today's witnesses and an opportunity to discuss H.R. 3684.

Thank you, Mr. Chairman.

Chairman OWENS. Mr. Ballenger.

Mr. BALLENGER. Thank you, Mr. Chairman. I just would like to say that I represent a county in North Carolina that is ranked as the 25th worst air pollution county in the United States. As a businessman, I think that probably education would have done a great deal for us. But as a businessman now, I'd like to tell everybody that we're doing our best—before EPA and before education, we're doing our best to clean up the air and clean up our act.

I'd just like to thank Mr. Reilly. A group of your people met with me yesterday there and we're doing our best to see if we can't clean up our reputation a little bit as well as do a good job on behalf of the environment.

I would like to commend the Chairman and the members of the committee for bringing up a bill that might educate people in the future which may end some of the types of pollution that have occurred in the past. I thank you for the opportunity to say it.

Chairman OWENS. Thank you. Our first witness is Mr. William K. Reilly, Administrator of the U.S. Environmental Protection Agency. Welcome, Mr. Reilly. I almost said Secretary.

STATEMENT OF WILLIAM K. REILLY, ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY

Mr. REILLY. I don't mind.

[Laughter.]

Mr. REILLY. Thank you very much, Mr. Chairman, and members of the subcommittee. Excuse my voice—I seem to be losing it this morning.

May I request first that my full statement be included in the record and I'll make a brief summary statement.

Chairman OWENS. Without objection, your full statement will be entered into the record.

Mr. REILLY. Thank you, Mr. Chairman. Let me compliment you and the members of the subcommittee on the legislation that you have prepared and thank you for the invitation to appear before the subcommittee.

I think that Earth Day 1970 put the environment squarely before us, drew it to the attention of the people of the United States, and set in motion a range of responses and activities from which we have benefitted enormously over the past 20 years.

I very much hope and expect that this coming Earth Day will do the same. That it will celebrate many of those accomplishments and will, by drawing in many millions more all over the world, remind people of the fragile nature of many of our natural systems that maintain our health and activity, support all activity—all human activity, including economic activity—the world over.

I think Earth Day in one sense is a moment for sustained and intense environmental education. That's really what it is. That's what it was and that's the effect that it had. In fact, we can look back to that day and see that what were the cutting edge concerns of a group of environmental activists and leaders back in 1970 have now, to a very large degree, become the core of values of the American people.

We can measure indisputably and specifically, the very concrete benefits that the transformation of these values has had on environmental performance in this country—whether it's the 96 percent of the lead that has been removed from the atmosphere largely as a result of our having phased lead out of gasoline, or the 63 percent of total suspended particulates that we've removed from the air. Contaminant levels in the fish that are now in the Great Lakes, some of which we thought might be dead by now have also declined significantly. We've got real measurable, significant accomplishments.

I think to sustain many of these accomplishments it's necessary to look beyond the laws and the regulations. We need to look to ways to educate the public and particularly younger people as to the role of various natural systems and the importance of relating to them in an interdependent way, of protecting them, or respecting them.

I believe this effort to educate into our people as to this environmental ethic is really a marvelous blending of two very important values and concerns—education and environmental protection. I support it; the President supports it; the Administration is enthusiastic about it.

We want to heighten public sensitivity to these issues. We want to educate youth. We want to encourage young people to pursue environmental careers. Particularly, we want to encourage minorities to develop their talents and put them into service of agencies like my own.

I spoke from a very self-interested point of view a couple of weeks ago at Howard University to 200 or so star students brought together there to try to enlist their interest in considering the environment as a career. Four-fifths of our people at the Environmental Protection Agency both at the headquarters and in all of our

regional offices are technically trained. Secretary Watkins, Dr. Bromley, the President's Science Advisor, and I and others in the Administration are very concerned about the adequacy of trained technical people to continue to staff our technical jobs. We need to continue to ensure that our agencies have the best talent available to them in sufficient numbers and quality.

We see this legislation as something that very much is addressed to those problems and we very much hope that once our initial concerns are met that it will be passed.

The bill calls for an internship program in Federal agencies. I certainly support that proposal. We met just a couple of weeks ago with a number of university heads to try to see whether we couldn't dovetail our needs, particularly for scientifically trained people, with their curricula. This might give us people and give us access to them earlier in their careers or in their student careers before they've made their professional decisions while there's still a chance to influence them and perhaps get them to consider carrers in our line of work.

H.R. 3684 also calls for an Office of Environmental Education in EPA. I very much support that concept. We are moving in that direction at EPA. In November of 1989 we established an Environmental Education Task Force within the agency under the chairmanship of Deputy Administrator Henry Habicht. That task force will report within the next couple of months on a survey of environmental education resources, on curriculum issues, on a strategic plan for making the most of our contacts with colleges and universities, and assessment of the need and of what we need to do to try to make sure these needs are met.

We have a Center for Environmental Learning in Region III, Philadelphia. I think one of the strengths that the Agency brings to this whole field of environmental education is that we are deployed out and around the country. We have something in the way of a third of our people here in Washington, but we have ten regional offices and numerous other facilities, scientific, technical facilities, laboratories, out and around the country. Probably most people who deal with the Environmental Protection Agency typically deal with one of our decentralized entities rather than with headquarters.

We have within the Agency the National Advisory Council for Environmental Technology Transfer, (NACETT), which has held hearings to solicit a wide range of opinions on technology transfer requirements and opportunities to advance our environmental agenda.

We have the President's Environmental Youth Awards Program. A few months ago I participated with the President at the White House—the first time a President has himself conferred these awards, certainly in the past ten years—and saw the variety of talented young people and had some chance to review the projects that had won for them their awards—one in each of the ten regions. Among the projects were those on recycling, acid rain, and hazardous wastes, and things of that sort.

Outstanding students were awarded prizes with the President himself participating. I think this gained significant attention for their projects and for them as well.

We have a pilot project in our Region X in Seattle among three high schools to develop integrated curricula taking essentially the lessons that students learn in their science courses and developing their practical applications for addressing local problems—local waste-water clean-up problems, for example—or soil management problems, or recycling, or other specific ways to apply what they are learning in school. This gives them, I think, a sense of the real world value of their education for protecting their environment.

I should signal two concerns with the bill. We must object to setting aside any portion of Federal monies for the purpose of the bill. The Environmental Education Trust Fund in Section 10would do this.

I would simply say that we would welcome the opportunity to work with the subcommittee on some of these financing issues. I'm here, obviously, to signal my own and the Administration's significant interest and concern and support for major aspects of this legislation, and for its objectives. So we do intend to do everything we can to try to give full expression to the possibilities that are expressed in the legislation but are not prepared or not in the position to support this specific funding approach.

We have another concern with the bill in that it contemplates EPA playing a role directly in the design and development of curricula materials. It would be our preference, and I think a far better approach to environmental education, for us to try to leverage and stimulate in the country those people whose business it is to prepare curricula, who are professionals in that area, and have a diversity of ideas about how it ought to be done.

I would feel much more comfortable reviewing plans and proposals, considering innovative ideas, supporting them from the Environmental Protection Agency, rather than having ourselves assuming that responsibility.

In closing, let me say I do applaud the subcommittee and you, sir, for your work on the legislation. We very much hope that we can work with you and the members of the subcommittee and your staff on the specifics.

I, myself, see education as playing a very large part in the United States with respect to furthering environmental protection. I have given, I think, in the time I've had as administrator, a high priority to education issues.

As we contemplate elevating the agency to Cabinet status, one point that I think is important to make is that the Environmental Protection Agency is more than purely a regulatory agency. I think the country wants and needs some direction, some involvement of our Agency in helping set priorities, in helping form the agenda, and in helping inform public opinion and giving expression to the impatience, even the urgency, that so many people feel about improving the environment of this country and of the world.

I very much hope that EPA can aspire to fulfill that role and I see your legislation as an important step along that road. Thank you, sir.

[The prepared statement of William K. Reilly follows]

TESTIMONY OF
WILLIAM K. REILLY
ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON SELECT EDUCATION
OF THE
COMMITTEE ON EDUCATION AND LABOR
U.S. HOUSE OF REPRESENTATIVES

APRIL 19, 1990

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss H.R. 3684, the proposed "National Environmental Education Act." This occasion could not be better timed, for we are approaching the 20th anniversary of the first Earth Day in 1970, the event that more than any other galvanized the modern day environmental movement and gave expression to the strong desire of the American people for a clean, healthy, productive environment.

Twenty years ago, we Americans made a profoundly important commitment -- a commitment to the future of our planet. Faced with mounting evidence of the ill effects from decades of environmental ignorance and indifference, we set off in a new direction.

Earth Day 1970 put environmental issues squarely on the national agenda, as millions of people across the country clamored for better air and water. Thousands of schools and colleges held

environmental "teach-ins," and the media carried similar educational programs into homes across the country. The original Clean Air Act was passed later in the year. Before 1970 ended, the Environmental Protection Agency was created to institutionalize this new environmental awareness.

As a nation, we have accomplished a great deal since that historic outpouring of environmental concern 20 years ago. We can take pride in the successes of the past two decades. As individuals and as a society, we've learned that we can make a difference, that we can effectively address environmental concerns to improve our quality of life.

As we approach Earth Day 1990 this next Sunday, the job is far from completed. Many of the environmental problems that sparked the first Earth Day are not fully resolved. We're discovering new, more difficult, more pervasive problems, which demand our attention -- all the energy, ingenuity, and dedication that we can muster.

Since his Inaugural Address, President Bush has urged the American people to embrace a new ethical awareness of nature and our responsibility for its stewardship and wise use. During the first year of his presidency, he has launched solid, wide-ranging environmental initiatives -- from advocating a goal of no net loss of wetlands, to sweeping proposals for strengthening the Clean Air Act, to stepping up Superfund enforcement. In January, he announced his support for elevating EPA to a Cabinet department.

I admire and I share the President's abiding interest in renewing this nation's commitment to conservation of the natural resources on which all human activity, including economic activity, depends.

It is the people -- individuals acting on their own behalf and that of their children -- who are the key to this new environmental ethic. The more they know, the more they understand, the more they benefit, the more active and involved they will be in making a personal contribution to environmental improvement.

When I was with President Bush in Spokane, Washington this past September, the President spoke about the importance of this environmental ethic and the way in which it touches our lives. "Through millions of individual decisions -- simple, everyday, personal choices -- we are determining the fate of the earth. So the conclusion is also simple: We're all responsible, and it's surprisingly easy to move from being part of the problem to being part of the solution."

This is why environmental education can play so substantial and important a role. Our environmental laws and regulatory programs are achieving their ends: protection from environmental hazards, improving the quality of our natural environment, broadening our base of knowledge. Yet this is no longer a sufficient approach given the magnitude and nature of the environmental problems we face. We must make great strides, too, in encouraging voluntary changes in individual habits -- to cut waste and to prevent pollution before it becomes a problem.

Heightened public sensitivity to the environmental consequences of individual and collective actions is a benefit of environmental education. Additionally, it is through environmental education that we can help prepare future environmental management professionals.

H.R. 3684 seeks to achieve these same three objectives:

- o expanding and improving public understanding of environmental problems;
- o fostering environmental education and training programs at the State and local levels; and
- o encouraging young people to pursue careers in environmentally-related scientific and technical fields.

The Environmental Protection Agency strongly supports these underlying principles.

One of the major features of the bill is its recognition of the need for college-level training in the environmental sciences, and it proposes an internship program to further this aim. We at EPA are especially aware of the need to ensure the presence of an ample supply of trained and qualified professionals in scientific and technical environmental fields both now and in the future.

A recent report by the National Task Force on Women, Minorities, and the Handicapped in Science and Technology indicates that without significant changes in the way this country recruits and trains its scientists and engineers, the projected U.S. labor

force by the year 2000 will not be adequate to fill the scientific and technical jobs such as those at EPA. A number of EPA's predecessor agencies, especially the Public Health Service, had training programs that produced a cadre of well-trained engineers many years ago. These individuals formed the nucleus of a scientific community in the early EPA and demonstrated the success of this type of approach. Therefore, we support the proposal for environmental internships, although we would welcome the chance to talk further about the details of such a program.

Other Federal agencies are also taking steps to prepare young Americans for scientific and engineering jobs. EPA is an enthusiastic supporter of Secretary Watkins' Education Initiative in Math/Science. This program is designed to improve the education of our students at all levels in mathematics, science, and technology.

H.R. 3684 further proposes to establish an Office of Environmental Education within EPA to coordinate environmental education activities within the Agency and those conducted by other Federal agencies and to foster environmental education programs at the State and local level. The Agency supports assigning one unit in EPA the primary responsibility for environmental education with a clear definition of its mission and goals. We are already moving in this direction.

Early last November, Deputy Administrator Hank Habicht and I established within the Agency an Environmental Education Task Force

to catalogue all the work done under Agency auspices. Building on the strengths of existing programs, projects, and constituencies, the Task Force was charged with developing an effective environmental education program for the Agency.

The Task Force cuts across programs and media with representation from each major office within EPA. It consists of 25 senior Agency members and enjoys the participation of the National Governors' Association. It convened just after Thanksgiving to begin its work to develop a comprehensive strategy for environmental education at EPA. This strategy starts with four major objectives:

- o Inventory and assess current, on-going EPA environmental education activities. A draft survey is being reviewed within the Agency.
- o Investigate and develop options for financing the Agency's environmental education efforts. The Task Force has highlighted the need to leverage private contributions for environmental education activities.
- o Sponsor, in conjunction with the National Governors' Association, the first Youth Environmental Action Forum in Washington, D. C. on May 20-23, 1990. The Forum will enhance public awareness of environmental issues by capturing the spirit and enthusiasm of our youth as well as expand the network of educators involved in environmental education. High school students and

educators from around the country and from various foreign countries will participate and develop individual environmental action plans based on their local environment. We are considering future national environmental youth forums, perhaps biennially, with our Regional offices sponsoring forums in the years in between.

- o Develop a strategic plan for environmental education by spring. This plan will present the Agency's approach, major actions, milestones, and responsibilities, over a two or three-year period.

This strategic plan, a draft of which is currently being reviewed within the Agency, will provide the blueprint we need at EPA to consolidate and orient environmental education activities, to improve our effectiveness, and to define our national leadership role.

In addition to the recent work of the Task Force, I would like to highlight several other on-going environmental education efforts at EPA:

EPA's Center for Environmental Learning

The Center is located in the Agency's Region III Office in Philadelphia and sponsors environmental lectures featuring prominent speakers, forums, and seminars. These sessions, both within EPA and throughout Region III, focus on issues such as waste

minimization, SARA Title III, air toxics, risk analysis and communication, indoor air pollution, environmental education trends, and dispute resolution. In the future, the Center plans dialogues on key issues among educators, nonprofit organizations, industry, and other constituencies.

National Advisory Council for Environmental Technology Transfer (NACETT)

The National Advisory Council for Environmental Technology Transfer was established by EPA by Federal charter in June 1988. The Advisory Council consists of a group of independent experts drawn from government agencies, business and industry, academia, public interest groups, and the media. This group advises the EPA Administrator on technology transfer issues associated with environmental problems. NACETT's Environmental Education and Training Committee, one of NACETT's five standing committees, has as its goal the achievement of an environmentally conscious and responsible public. In mid-September, this Committee held national hearings, soliciting testimony and recommendations from over 40 national and international experts on the state of environmental education generally and how the Agency might best proceed in the next decade. These recommendations were submitted to the full Council for review in mid-January, and the final package of recommendations was unveiled in February. Overall, these

recommendations have provided a valuable resource from which we are drawing ideas to build our environmental education program and the strategic plan.

EPA's President's Environmental Youth Awards Program

The President's Environmental Youth Awards Program offers young people an opportunity to be recognized for their efforts to protect our environment. Students in any grade from kindergarten through twelve can participate as an individual or as a part of a class, school group, youth club, or summer camp. To be eligible, a student must plan and carry out an environmental project and must be sponsored by an adult who will advise and guide the student(s). President Bush awarded this year's participants a certificate and honored ten national winners in a White House ceremony in November 1989.

National Network for Environmental Management Studies (NNEMS) Program

The National Network for Environmental Management Studies (NNEMS) Program is a cooperative effort of EPA and over 75 participating universities designed to produce high-quality graduate studies in environmental policy and management areas where the Agency has identified a real need. The Agency's identified needs are translated into research questions. Graduate students from any participating university are invited to submit written

research proposals to EPA which, if accepted, are funded by the Agency. The program provides real world experience, learning opportunities, professional guidance, and encouragement to individuals pursuing careers in environmental protection fields. The Agency benefits by receiving completed priority research projects, identifying high quality recruits, and increasing public awareness of environmental problems. The research is disseminated to a national audience of public and private professionals and organizations in environmental management fields.

Students Making a Difference -- Relevant Environmental Education

Our Region X Office in Seattle has initiated a pilot project which uses local environmental issues as a tool for illustrating the interrelationships between academic subjects and to help students understand their role in protecting the environment. The project has three elements: to develop an integrated environmental curriculum; to demonstrate resource potential of schools; and to show young people that they can make a difference.

The Region X Office is currently assisting three Seattle area high schools in developing integrated curricula which focus on important community environmental issues. EPA will fund one teacher from each school this summer to study his or her selected issue, to prepare class materials, and to assist fellow teachers in writing appropriate lesson plans. All materials will be shared to help other teachers develop similar projects.

We would mention here that a number of our sister agencies also are involved in environmental education. For example, the Department of Agriculture has in place a national network for the delivery of education and technical assistance programs. These programs, administered by the Extension Service and the Soil Conservation Service, address an array of environmental issues and are targeted at both youth and adult audiences in every county in the nation.

The basic objective of these programs is to achieve both an understanding of and the voluntary adoption of practices that sustain the integrity of the environment. As an example, USDA is implementing a water quality initiative that focuses on the use of agricultural chemicals and the implications of agricultural non-point source impacts on water quality. USDA is explaining to agricultural producers and other users of agricultural chemicals their environmental effects and is providing technical assistance to encourage them to adopt voluntarily agricultural production practices that are both profitable and environmentally sound.

In addition, the President's 1991 Budget includes $500 thousand for a new Presidential Environmental Education Award program to be administered by the Council on Environmental Quality. This program is designed to stimulate the introduction of environmental education into elementary and secondary school curricula and to reward excellent teachers. The awards would recognize teachers, two from each State, who designed and

implemented the most innovative and effective programs to teach students about the environment. CEQ will be transmitting legislative language for this bill shortly, and we believe that this legislation should be incorporated in any bill.

As you can see from EPA's on-going work I have highlighted, many of the activities which H.R. 3684 would authorize -- training programs, award programs, internships, fellowships, and grants -- are already underway at the Agency or are being contemplated. And so we find ourselves philosophically very close to both the principles which underlie this bill, as well as many of the programs it envisions.

As you might expect, however, we have concerns about certain provisions of the bill. Two aspects of the bill, in particular, raise concerns for us. The first is the Environmental Education Trust Fund established by Section 10 of the bill.

The sum of $15 million would be authorized to be appropriated from the Trust Fund to carry out the activities contemplated by the bill. The Trust Fund would be financed by taking half the amount of any Federal penalty paid by pollution control violators and depositing it into the Fund. Normally, these penalties would go to the U.S. Treasury.

The Administration must raise strong objections to the setting aside of any portion of Federal monies for the purpose of this bill. Further, while we do not object to a separate line item in the budget to fund these activities, we do not believe establishing

a Trust Fund is necessary. Having said this, we do recognize the need for greater flexibility in funding expanded environmental education efforts. To this end, we are presently exploring alternative funding mechanisms, including the possibility of authorizing the Agency to receive private contributions for environmental education programs. We would like to work with the subcommittee staff on these issues.

A second concern is with Sections 2 and 4 of the bill. These sections refer to EPA and the proposed Office of Environmental Education as supporting the development of environmental education curricula. We are obliged to be both consistent and clear as to EPA's role in the evolution and use of educational curricula generally. A wide variety of expertise already exists in the areas of curricula development and production -- in universities, in non-profit groups, and in research and education centers. In our view, EPA's role as lead agency under the bill should be one to encourage and to spark curricula development, education programs, and training materials -- not to develop them ourselves in-house. Our preferred approach would link us with groups who have considerable expertise in these and allied fields. We would also hope to share EPA's technical expertise with interested State, local, and non-profit entities.

In conclusion, let me applaud the Subcommittee and you, Mr. Chairman, for your initiative in this important area of environmental education. I think we have an opportunity with

legislation such as this to turn the awareness born of that first Earth Day 1970 into a powerful force to improve the environment.

We at the Agency look forward to working with the Subcommittee and staff on the specifics of the bill, as well as on defining a vision for national environmental education and making it come true.

I would be pleased to answer any questions you may have.

Chairman OWENS. Thank you. You say that the Administration must oppose trust funds, did you say, or set-asides?

Mr. REILLY. Yes, sir.

Chairman OWENS. All trust funds are opposed by the Administration?

Mr. REILLY. Well, this is something that has arisen in any number of instances where proposals have been made to direct funds, such as penalties, in this case, collected from environmental polluters to specific causes. That is routinely resisted. It's not resisted here as a way of denying the need for the funds or in any way suggesting that we don't want to se them provided. We do and we'll be back here to make that case.

We're really objecting to the manner of the funding, to the earmarking that's proposed. This is something to which the Office of Management and Budget and the Justice Department which routinely have raised questions and concerns. These monies do go to the Treasury under current law and we don't wish to see that precedent broken. I think if it were in this case, we might well see other causes advanced in the same way and I would have to object to that as well.

Chairman OWENS. I think you made it clear that you think that education is important in this area. I'd like to ask if you could be more specific and we could pin down just how important it is.

I had a colleague when I was in the New York State Senate who every other year—when it was election time—would propose that he would fight to the death to prevent the imposition of tolls on the bridges from Brooklyn to Manhattan which had been proposed way back in the distant past as one way to stop the pollution in Manhattan by the tremendous number of cars that go into Manhattan every day.

Of course, recent reports have shown that New York has made a lot of progress in clearing up pollution in every aspect except the most important one, and that is the fact that the cars are still increasing, the numbers are increasing, and something is going to have to be done.

But he would always make this statement that he'd fight to the death for the imposition of tolls, and it never failed that, he'd get headlines behind it and voters, of course, would rally. The voters are not going to support some of the stringent actions that need to be taken unless there is tremendous amount of education taking place beforehand.

It seems to me that in terms of saving money and lowering our costs in other places, a tremendous education program would be our most important step in this crusade. Could you comment in terms of the proportion of your total budget—we're talking about a $15 million program. How big is your total budget?

Mr. REILLY. Our total budget request for FY 1991 is in the range of $5.6 billion.

Chairman OWENS. $5.6 billion. Now, we're talking about——

Mr. REILLY. The question, Mr. Chairman, I don't think is about either the importance of the function or the size of the funding because on both of those issues we agree with the authorization level that you have, a $15 million authorization level here.

I have noted around the country there has been occasionally an impulse on the part of judges to work with cases where there has been a large fine levied against a company and where a settlement has been agreed upon to encourage a company to bless a settlement that itself created a new fund—made a contribution to environmental protection and clean-up.

In one case, in the case of the Allied Chemical kepone case in Virginia, a foundation was actually created, the Virginia Environmental Endowment, as a way of making recompense to the citizens of Virginia and to support environmental protection there in the future.

That's something that in specific cases I think has merit and is, as I say, often a part of a settlement. It's the allocating of a specific amount of segregated money here, that would be apportioned for this purpose only, that creates a new precedent and creates the problem that we're concerned with. But as I say, it's not a concern with the importance of the cause or the need for the revenues, the monies to be appropriated to support it.

Chairman OWENS. Leaving the issue of the funding mechanism, the amount of funding is what I'd like to hear you comment on more. What proportion of the total effort in this country should go toward education?

This particular program has had a very pathetic history. You know, it had very little support to begin with and then it lapsed completely. Now we're trying to resurrect it. We'd be happy to get $15 million because $15 million is so much more than zero.

[Laughter.]

Mr. REILLY. So would we.

Chairman OWENS. But, really, if we're going to mount a sustained effort and an effective crusade, whether it comes from the private sector or more from the Federal general fund, or wherever it comes from, don't we need to put much more into an education effort?

Mr. REILLY. I think that we do in fact need to increase our priority for education. One of the examples I would point to that has, I think, been very successful and on which we might model our approach here on has been the Fish and Wildlife Foundation within the Department of the Interior. This is a foundation that has been established by law with a very distinguished board of directors that has gone out and raised a significant amount of private funding for a variety of environmental purposes that then has been matched up to a certain maximum by the Federal Government.

So what we have seen has been both a very large inclusion of a number of institutions and people that otherwise might not have been engaged in the effort and a much larger amount of money as a result of their involvement. So the Federal money really did act as leverage, really served to provide seed money, and then it was augmented. As a result, we've got a very effective public/private partnership.

I would hope that we could do the same kind of thing in the Environmental Protection Agency. I know there are a lot of concerns about the environmental education program that we had in the 1980s. I'm not specifically familiar with some of the concerns, some

of the problems that people saw in that program. Certainly we want to inform ourselves of the nature of those problems.

One problem was the inconstancy in funding. It just went up and down and finally disappeared altogether. We will take account of that and consult with those who were most involved with it at the time to try to make sure that we don't fall into that pattern again.

Chairman OWENS. Thank you. Mr. Ballenger.

Mr. BALLENGER. Thank you, Mr. Chairman. If you don't mind, let me start with Mr. Secretary and then I won't screw up the next time we meet.

[Laughter.]

Mr. BALLENGER. I think this type of educational program may have been useful when I was in college in the 1940s.

I am a businessman who ran a printing operation. In the old days, we had an unpaved parking lot—so guess what we did with the waste inks at the end of the day? We'd go out and throw them out in the driveway. It was kind of something to keep the dust down. Strangely enough, we had a little spring at the bottom of the hill that my plant was on and I just happened to wander down there one day—that was the first time I ever was ecologically oriented at all—I wandered down to that little spring and one day it was red.

I wondered what happened and I kind of saw in the driveway that something was wrong. The next day I went down there and it was blue. I realized the inks from my plant were causing this trouble. From that time forward we never dumped our inks in our yard.

My daughter, looking for an education and very ecologically oriented, didn't know what she could do so she got a master's degree in public administration. The happiest day of her life was about a month ago. She quit being the financial officer of my home town and went to work in a recycling process that they're developing down in Hickory. Private enterprise has invested $2.5 million and I'm sure the government is looking down their back. She's now super-happy with the idea that she's going to do something for the rest of the world.

As a businessman I still own the company that polluted and my pollution was alcohol. I never realized alcohol was a pollutant. My plant smells like a fraternity house used to smell on sundayS—you know, after the party the night before. I found out that this was a dangerous thing we were doing.

Without government mandate my company installed a $600,000 catalytic converter to take care of the pollution in the past.

But, really, my county has noted—was noted to be one of the 25th worst counties in the I received a good education at Amherst but no ecology classes were not offered while I was there. It's something that I'm glad to see that we're all paying some attention to.

I don't want to say anything to the Chairman, but we have so much trouble with trust funds around here, trying to get the money out to spend it where it's necessary, that I agree with you. I don't think we need any more. I mean, we've got an aviation trust fund we can't spend and we've got a highway trust fund we can't spend. We've got a Social Security trust fund that we're misusing.

Let's don't have any more trust funds. Let's let the people know where their money is going and just straight out fund education.

I'd just like to thank you again. You don't know what we did with your people down there yesterday in North Carolina.

Mr. REILLY. I'm glad to hear it's going better.

Mr. BALLENGER. Yes, sir, much better. Thank you.

Mr. REILLY. Thank you.

Mr. BALLENGER. I'd like to say that I greatly appreciate it, and we are going to clean up my part of the country. Thank you very much.

Mr. REILLY. Thank you, sir.

Chairman OWENS. Mr. Jontz.

Mr. JONTZ. Thank you, Mr. Chairman. I hope, Mr. Reilly, that you're right, that we can learn from the experience in the 1980s and write a better program, and I appreciate your dedication to that task.

I just wanted to note very briefly a previous association I had with your Agency almost 20 years ago when you were in your infancy. I was a member of the Youth Advisory Board to Region V EPA. I can't say that the Agency always followed the advise that we gave them, but I can say it was a very educational experience for us, if not for the Agency.

Mr. REILLY. I'm glad to hear that. I didn't know how that sentence was going to end.

[Laughter.]

Chairman OWENS. Mr. Bartlett.

Mr. BARTLETT. Thank you, Mr. Chairman and Mr.—I started to say, and the next time you are there I will say Mr. Secretary. Mr. Reilly, I very much appreciate your testimony and your initiative on this legislation. I was in a caucus on another piece of legislation that's coming up for mark-up next week and I apologize for being late.

Let me just walk through with you a couple of questions I have about the legislation.

First, I detected from your testimony that you think a better funding mechanism is to have the $15 million per year be separately authorized and appropriated as a separate line item as opposed to a dedicated trust fund. Can you elaborate on that a bit?

Mr. REILLY. Well, I was saying in answer to an earlier question that we support the cause. Obviously that's the meaning of my appearance here. We support the direction of the legislation; we support its objectives; and we support the authorization level.

We think these all are not only reasonable but very desirable and much to be applauded. We are not in a position to support the establishment of a specific trust fund or of a mechanism that would assign 50 percent of the penalties collected which are raised from environmental polluters—penalties, I might say, that have gone up fairly significantly as a result of our enforcement priority at the Agency—to this or any other cause.

This is something to which we must object. It obviously would invite the concerns of a number of others who have different causes perhaps to try to do the same thing. These receipts typically do go to the Treasury and we want them to continue to go to the Treasury.

But I raise that concern, really, as a matter of mechanics, not as a matter of raising a concern about the amount of the funds that are proposed here. We will be back to support an authorization.

Mr. BARTLETT. So you'd be here for an authorization but to do it in the regular old way——

Mr. REILLY. Yes, sir.

Mr. BARTLETT. [continuing] not as a portion——

Mr. REILLY. That's correct.

Mr. BARTLETT. [continuing] of penalties. Second, as you envision the program when fully fleshed out, how much of the education would be in schools and how much would be in public education, in the adult or in the general community?

Mr. REILLY. I think that the way in which the bill has been drafted is a reasonable balance of grant activity, of attention to a variety of specific needs. We possibly would be prepared to discuss some of the proposals that have been made to include senior citizens with some adult education as well.

However, I particularly see the need early on—and I had recent conversations with presidents of several historically black colleges—to engage students well before they're at the professional level, or just before their graduate level, to try to make relevant to them the implications of science and technical training for real world problems that can excite them, can involve them, can cause them to think about directing their lives towards solving them.

So I would hope that early education, elementary education, which we have really very little influence on right now—certainly in our Agency—I would hope that it could get a reasonably significant part of these funds. I think that this would yield an important payoff. We would see that in later years they would take their high school courses more seriously, they would choose electives in college and university that lead them toward our kinds of careers—the careers for which we have real need, and get us better technically trained, scientifically informed professionals where we see a severe shortfall arising in the future.

Mr. BALLENGER. Do you have any difficulties in terms of management disagreements with the Department of Education as to the EPA having jurisdiction over grants to schools?

Mr. REILLY. None that I'm aware of. No, sir. This is the Administration position that I'm presenting this morning. I think there probably is a good deal that we can learn from the Department of Education in how to carry out some of the responsibilities that we would have under this bill. We certainly would expect to work closely with them on that.

I have not discussed this issue with Secretary Cavazos directly but I know that he and I are both excited by the convergence of the President's very high priority both for the environment and for education. Here you've wedded both of them just prior to Earth Day, I think in a very imaginative way. We both support that.

Mr. BALLENGER. On a similar topic, as EPA becomes a cabinet-level department, there are a fair number of other departments that have jurisdiction over environmental matters that are, if not purely, at least principally environmental. I'm thinking of the national forest, for example, both in actions within wilderness areas as well as the harvesting of the national forest as timber.

Do you envision EPA getting more involved as the environmental spokesman with other departments. The Department of Agriculture comes to mind rather quickly.

Mr. REILLY. Well, you know, the truth is we can't do our job if we don't. I think one of the realities that's sometimes difficult, and even an unpleasant one, is that an EPA Administrator from time to time gets in everybody else's hair, whether it's with Agriculture on the farm bill or pesticides or Interior on water contracts or Energy on energy facilities and Transportation on alternative fuels issues and automobile emissions regulation. That is the nature of the requirement if we're seriously to engage these questions and improve the environment.

I can recall, though, some 20 years ago this week I went to work at the Council on Environmental Quality and was given the job of helping prepare the regulations, the guidelines, for implementing the environmental impact statement requirements. One question we had at that time was whether it would make sense either to employ people directly to do environmental analyses perhaps in the Executive Office of the President or to ask the agencies themselves to do it.

It was very clear to us that if you want these values to take and systems to work, you've got to get the various agencies of the government that have other primary interests to build them in and appropriate them and make them work successfully within their own programs.

I think that same lesson holds true, and we would hope in an very cooperative way to work with the Department of Agriculture. I've certainly worked very closely with Secretary Yeutter on the farm bill. He testified recently that there had never been a better relationship between the Department of Agriculture and EPA than we've got right now.

I would hope to keep that, and I think if we're to be successful on initiatives like this, we have to.

Mr. BARTLETT. Thank you. I yield back, Mr. Chairman.

Chairman OWENS. Mr. Secretary, I want to thank you. I understand you only have three or four minutes left and you're late for an appointment. I'll ask Mr. Payne and Mr. Martinez to each take two minutes of those three or four minutes for their questions.

Mr. Payne.

Mr. PAYNE. Yes. Thank you, Mr. Chairman. I just want to get clear about the funding. You said you would certainly oppose a trust fund but you would support appropriations processed—authorization and appropriations.

Mr. REILLY. Yes, sir.

Mr. PAYNE. So you're not opposed to the funding?

Mr. REILLY. No, sir, I'm not.

Mr. PAYNE. Okay. Well, that's good because I know that, as you indicated, the President has taken on environment and education really as what he wants to be known for. That's his legacy when he leaves. I do know that when he mentioned the new goals for the 21st century about drop-out rates no less—a 90 percent stay-in-school rate I guess we'll call it, and being number one in math and science, and every youngster being ready when they enter school, and on the 4, 8th and 12th grade they test on level.

Then, though, when we look at the Education budget, it was a decrease if you rolled in inflation. So, you know, my concern basically—and I'm glad to hear support for the funding—is that the goals are great and we all agree with them. I think I was 100 percent on everything the President said about what he'd like to see done.

It's just that when it came to the funding mechanism, how we will become number one in math and science, I do not know since we have very few—we're understaffed in those areas with math and science teachers. Without some incentive for them to go into education, we're not going to attract them with the levels of funding and so forth.

But I'm pleased—I guess I have no question—but I'm pleased that you support the funding so that we can move at least environment on to the levels that it ought to be educational-wise.

Mr. REILLY. Thank you, sir.

Mr. PAYNE. All right.

Chairman OWENS. Mr. Martinez.

Mr. MARTINEZ. Thank you, Mr. Chairman. Let me do this. I will make a few statements and then I will request, in order that you can get out of here in time, that you respond to me in writing.

One of the things that we seem to be hung up on—or—that the Department seems to be hung up on, including you as the Administrator, is the funding mechanism and the curriculum.

Let me ask you one brief question and you can say yes or no to this one. Do you in the EPA not have a division of recycling and—educational recycling?

Mr. REILLY. Well, we have a recycling czar, and we have a current effort to try to ensure that all of our regions and programs are recycling as much as possible. It's been a very successful program. It's not a separate department, though, within the Agency.

Mr. MARTINEZ. Okay. Well, at least you understand that there is a parallel between curtailing certain activities and——

Mr. REILLY. Yes, sir.

Mr. MARTINEZ. [continuing] doing those kinds of things that need to be done to direct us into an easier direction of handling the problems that we have with landfills and polluting, et cetera.

Mr. REILLY. Sure.

Mr. MARTINEZ. So, going along on that basis and with the statement quoted in your written statement that Bush made in Spokane in which he said, "Through millions of individual decisions, simple everyday personal choices, we are determining the fate of the earth." So, the conclusion is also simple. We are all responsible and it's surprisingly easy to move from being a part of the problem to being a part of the solution.

In that regard, the EPA has to understand that they have to be a part of the solution in education. It's the same thing as drugs. You know, we're never going to curtail drugs until we understand that a part of the money that comes from the drug enforcement activities of repossession of drug things seized, that we use a part of that money for the education to curtail drugs. We have to do that here too.

I can't understand why the Agency would not want a part of that money that comes from polluters because polluters are a part of

the problem. So part of the solving of the problem is education. I believe—and the EPA already has a policy—polluters must pay.

Mr. REILLY. Yes, sir.

Mr. MARTINEZ. You go after those polluters and when you have to put out great amounts of money to correct the problems—you look for them to pay. They polluted.

In the same regard, if they're a part of a total problem, then some of that money, rather than going just back to the general revenues because, God knows, we haven't done a good job with the monies we get in general revenues—so, we ought to use that money.

The Department of Education—as they've had the EPA education program—has not done a good job of it. Has not. But there's no reason why you can't coordinate with the Secretary for a strong environmental education program.

Like my two colleagues on my right have said, they'll call you next time "Mr. Secretary," I understood the President was going to veto that, but they must have some inside information. So, I'm really glad that we'll be calling you "the Secretary" because I think that's where that post should be elevated to because it's so important in not only what happens in the world but also in what happens to us as a country.

So, in that regard, I'd like you to tell me why you don't feel that the EPA, in conjunction with the Department of Education—since you have more expertise than the Department of Education has on those problems dealing with pollution—why you couldn't work in conjunction with the Department of Education and go forward to setting a national policy that we're going to do something about educating people on what they can do to help us clean up the environment.

Mr. REILLY. Well, I'm not sure how specifically and how much detail the Department of Education itself gets into in terms of curriculum development. I've had the impression that they resist being too intrusively involved in that themselves and that it's largely a State and local function in their view.

It's simply something that, especially in the early phase of gearing up a new program—I suspect we'll do better if we really listen to the country, if we pay attention to the concerns that are out there. People want to explore and they want to create, and there are innovative programs. We're aware of some, certainly not all of them.

But I think if we respond to what they propose and support a different variety of approaches——

Mr. MARTINEZ. It depends on where they come from. Excuse me for interrupting you, but I was going to ask you the question too——

Chairman OWENS. Mr. Rodriguez you—Mr. Martinez.

Mr. MARTINEZ. Just one last thing and you can respond to me in writing. The average person in an urban area is really concerned about how he gets to work and back and how he gets out to his vacations and back. Really he doesn't think about the environment. You go up to Silver Lake and you see the people that go up there on the weekends. They throw their litter and their trash. They really don't care. They're not educated.

Think about all those people in those great urban centers where the majority of our populations are that need that education. What should be done to raise their awareness?

Chairman OWENS. I think it was agreed that you could supply the answer in writing.

Mr. REILLY. All right, sir.

Chairman OWENS. We'd appreciate the answer being made available to the whole subcommittee. Thank you.

Mr. REILLY. Thank you very much, Mr. Chairman. Let me thank you and compliment the subcommittee on your very constructive initiative here. We do want to work with you on it.

Let me say, too, that education is a job for a lot of people. Many have played and do play an important role. One of them is a witness that's about to follow me. Really, I'm very happy I didn't have to follow him, I might say. I see he's got his guitar. I don't have my guitar—not that I could have followed him if I had.

I think that it's great to engage people of his reputation and commitment in these questions. We all have to work on them, and I think we'll make a better educational program and begin to respond to the country's concerns more effectively if we do.

Thank you, sir.

Chairman OWENS. Thank you. Our next witness does not have a good talk. We've been joined by Senator John Chafee——

[Laughter.]

Chairman OWENS. [continuing] who was scheduled to testify earlier and has arrived now. Welcome, Senator Chafee.

Mr. BARTLETT. Mr. Chairman, perhaps Senator Chafee could hum a few bars though.

[Laughter.]

STATEMENT OF THE HONORABLE JOHN H. CHAFEE, UNITED STATES SENATOR FROM THE STATE OF RHODE ISLAND

Mr. CHAFEE. Mr. Chairman, first of all, I wanted to thank you and Mr. Ballenger and the other members of the committee for holding this hearing today. I know you're really looking forward to the next witness so I'll be brief.

I want to say a couple of remarks about this legislation which I'm for and, indeed, in the Senate with Senator Burdick and Senators Cohen, Cranston, Senator Mitchell and others, I've introduced.

The concept of environmental education is not new. In 1970, before I got here—perhaps some others remember it—Congress did pass the National Environmental Education Act. But unfortunately that wasn't aggressively implemented by the former Department of HEW and was repealed in 1981. It seems to me that there's never been a more urgent time for broad interdisciplinary approach to environmental education than there is today. Certainly we're all aware of this because we're coming up to Earth Day, or the 20th anniversary of the original one.

It seems to me we've got to instill in our population, especially the younger generation, an understanding that everyday actions that we take, such as garbage disposal or burning of fossil fuels, have a direct impact on the life-sustaining ecosystem which keeps

us all alive. If we fail at that, I think our prospects for solving these environmental problems have been greatly diminished.

So, the goal of environmental education is to get the next generation equipped with a keen awareness of environmental problems and, secondly, the skills to do something about it. I think perhaps we were all brought up and recognized ourselves perhaps in the articles that just recently appeared in the Washington Post and the New York Times about the influence of children on their parents.

I think we've all had the experience of our children coming home and getting after us, whether it's on seat belts and now it's on whether the tuna that we're eating has been caught in nets that entrap dolphins, whether we're drinking from styrofoam cups, whether we're affecting the environment in one way or another. They get this through education.

This past Monday, just three days ago, I came back from a trip to Eastern Europe where we went to Czechoslovakia, Hungary and Poland. There we were able to witness first-hand what happens when the environment is really abused and when the people aren't equipped with the education or the awareness to know what's going on about it.

In those countries the people purposely have been kept in the dark about the damage that's being done to the environment and kept in the dark by those communist regimes. Now they are discovering what's happening from those steel mills in the south of Krakow and a steel plant called Novahota where they've got 700 smokestacks. It's one of the biggest steel mill complexes—certainly in Europe and perhaps in the world. It's just an environmental disaster area around it.

Now, that's not to say that we in the United States are without fault. Many of our citizens certainly have been raised to believe that the capacity of our oceans or our air to take abuse is unlimited and now we're beginning to find out otherwise. Just take something like the destruction of the ozone layer. Not many people were familiar with that a few years ago and now people are aware of what CFCs are doing.

So, I think this is a good bill and the contents of it have been outlined and you're familiar with it. I just want to say I support it and hope we can get it passed in the Senate.

One of the parts that I think is of interest is the scholarships, 150 college-level scholarships that are provided in this legislation, to take youngsters and get them into college courses with scholarships for environmental education.

I must say, I think the awards are interesting. The names are appropriately chosen. Theodore Roosevelt, Henry David Thoreau, and Rachel Carson. That's a pretty good lineup of pro-environmentalists.

So, Mr. Chairman, on that basis I want to thank you for what you've done and encourage your committee to proceed as you have and hope the bill will get out from you and on up into the full committee and out on the floor.

Thank you.

[The prepared statement of Hon. John H. Chafee follows:]

News From
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APRIL 19, 1990 ED QUINLAN - 224-2921

STATEMENT BY
SENATOR JOHN H. CHAFEE
IN THE SUBCOMMITTEE ON SELECT EDUCATION
THE HOUSE EDUCATION AND LABOR COMMITTEE
ON THE NATIONAL ENVIRONMENTAL EDUCATION ACT

I WOULD LIKE TO THANK THE CHAIRMAN OF THIS SUBCOMMITTEE, MR. MAJOR OWENS, AND MR. STEVE BARTLETT, THE RANKING MEMBER, FOR SCHEDULING THIS HEARING ON A BILL WHICH COULD YIELD LONG-TERM DIVIDENDS IN THE PROTECTION AND IMPROVEMENT OF OUR ENVIRONMENT. I AM REFERRING, OF COURSE, TO THE NATIONAL ENVIRONMENTAL EDUCATION ACT. I, ALONG WITH SENATORS BURDICK, COHEN, KASTEN, MITCHELL, AND OTHERS, HAVE INTRODUCED SIMILAR LEGISLATION IN THE SENATE.

THE CONCEPT OF ENVIRONMENTAL EDUCATION IS NOT NEW. IN 1970, CONGRESS PASSED THE NATIONAL ENVIRONMENTAL EDUCATION ACT. THIS LAW, UNFORTUNATLY, WAS NEVER AGGRESSIVELY IMPLEMENTED BY THE FORMER DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, AND IT WAS REPEALED IN 1981. ALSO THE UNITED NATIONS SPONSORED A MAJOR INTERGOVERNMENTAL CONFERENCE ON ENVIRONMENTAL EDUCATION IN 1977. YET NEVER HAS THE NEED FOR A BROAD, INTERDISCIPLINARY APPROACH TO ENVIRONMENTAL EDUCATION BEEN MORE URGENT THAN TODAY. AS WE PREPARE TO CELEBRATE THE TWENTIETH ANNIVERSARY OF EARTH DAY, THE TOPIC OF ENVIRONMENTAL EDUCATION COULD NOT BE MORE APPROPRIATE.

WE MUST INSTILL IN OUR POPULATION, ESPECIALLY THE YOUNGER GENERATION, AN UNDERSTANDING THAT EVERYDAY ACTIONS SUCH AS GARBAGE DISPOSAL AND THE BURNING OF FOSSIL FUELS HAVE A DIRECT IMPACT ON OUR LIFE-SUSTAINING ECOSYSTEM. IF WE FAIL AT THIS, PROSPECTS FOR SOLVING ENVIRONMENTAL PROBLEMS BECOME GREATLY DIMINISHED. THE GOAL OF ENVIRONMENTAL EDUCATION IS TO ARM THE NEXT GENERATION NOT ONLY WITH A KEEN AWARENESS OF ENVIRONMENTAL PROBLEMS, BUT ALSO WITH THE SKILLS TO SOLVE THEM.

I RECENTLY RETURNED FROM A TRIP TO EASTERN EUROPE, WHERE I WAS ABLE TO WITNESS FIRST HAND THE RESULT OF NEGLECTING AND ABUSING THE ENVIRONMENT. IN THESE COUNTRIES PEOPLE ARE NOT ONLY ILL-INFORMED, THEY HAVE BEEN PURPOSELY KEPT IN THE DARK REGARDING THE HEALTH EFFECTS OF AIR AND WATER POLLUTION.

WE IN THE UNITED STATES ARE NOT WITHOUT FAULT. MANY OF OUR CITIZENS HAVE BEEN RAISED TO BELIEVE THAT WE HAVE A LIMITLESS CAPACITY TO DISPOSE OF OUR WASTE, AND THAT THE ENVIRONMENT WILL ALWAYS REBOUND FROM THE EFECTS OF POLLUTION. SCIENCE, HOWEVER IS BEGINNING TO DISPELL THIS MYTH, AND WE ARE FACED WITH THE REAL PROSPECT THAT WE ARE FOULING OUR OWN NEST. IN RECENT YEARS SCIENTISTS HAVE OFFERED INCREASINGLY DIRE SCENARIOS ABOUT THE EFFECTS OF GLOBAL WARMING AND OVER-POPULATION.

ENVIRONMENTAL EDUCATION IS NECESSARY TO INCREASE PUBLIC UNDERSTANDING OF THESE PROBLEMS, WHICH WIL IN TURN LEAD TO WIDESPREAD PUBLIC SUPPORT FOR MEASURES TO ADDRESS THEM.

THE GREENHOUSE EFFECT IS A GOOD CASE IN POINT. HOW MANY PEOPLE UNDERSTAND THE DEVASTATION OF THE EARTH'S OZONE LAYER BY SUCH CHEMICALS AS CHLOROFLUOROCARBONS. I WOULD GUESS NOT MANY, YET THIS IS POTENTIALLY THE MOST SERIOUS PROBLEM FACING NOT JUST THE UNITED STATES BUT THE ENTIRE PLANET.

PEOPLE HAVE DIFFICULTY UNDERSTANDING HOW A HOLE IN THE ATMOSPHERE, LOCATED THOUSANDS OF MILES AWAY, CAN THREATEN THEIR LIVELIHOOD. IN THIS CASE, EDUCATION IS THE KEY TO DEVELOP PUBLIC UNDERSTANDING AND SUPPORT FOR NATIONAL AND INTERNATIONAL EFFORTS TO PROTECT OUR EARTH.

OPTIONAL:

NOW WHAT WOULD OUR BILL DO? OUR PROPOSAL ESTABLISHES AN OFFICE OF ENVIRONMENTAL EDUCATION WITHIN THE ENVIRONMENTAL PROTECTION AGENCY AND AUTHORIZES $15 MILLION PER YEAR IN FUNDS TO BE AWARDED ON A COMPETITIVE BASIS. THIS SHOULD PUT THE PROGRAM ON ITS FEET AND GIVE IT THE VISIBILITY AND VITALITY IT LACKED IN THE 1970S.

UNDER OUR BILL, A MAJOR UNIVERSITY, OR A CONSORTIUM OF UNIVERSITIES AND NON-PROFIT AGENCIES, WILL BE CHOSEN TO ESTABLISH AND OPERATE AN ENVIRONMENTAL EDUCATION AND TRAINING PROGRAM. THIS PROGRAM WILL OFFER TEACHERS AND OTHER PROFESSIONALS TRAINING IN THE DEVELOPMENT AND PRESENTATION OF ENVIRONMENTAL EDUCATION CURRICULA AND FIELD STUDIES.

TO ATTRACT YOUNG PEOPLE TOWARD CAREERS IN ENVIRONMENTAL PROTECTION, UP TO 150 COLLEGE LEVEL INTERNSHIPS IN FEDERAL AGENCIES INVOLVED IN ENVIRONMENTAL ISSUES WILL BE MADE AVAILABLE EACH YEAR TO STUDENTS. AND TO RECOGNIZE EXCELLENCE IN ENVIRONMENTAL EDUCATION, THE BILL CREATES THREE AWARDS IN HONOR OF THEODORE ROOSEVELT, HENRY DAVID THOREAU, AND RACHEL CARSON.

TO ENSURE A CLEANER ENVIRONMENT FOR FUTURE GENERATIONS, WE MUST BEGIN TO EDUCATE CHILDREN TODAY. THE NATIONAL EDUCATION ACT IS A POSITIVE STEP IN THIS DIRECTION. THANK YOU FOR INVITING ME.

Chairman OWENS. Well, thank you very much for coming, Senator. We'd like a copy of your written statement, if you could leave it. If we have time for questions——

Mr. CHAFEE. Sure.

Chairman OWENS. [continuing] I have no questions but my colleagues have questions. If you'll take the time. Mr. Bartlett.

Mr. BARTLETT. Senator, if the dispute is over how it is funded, is it your goal then to just simply make sure it's funded, and whether it's a trust fund or an authorized and regularly appropriated item, is that a significant point in your mind as far as passing this bill?

It seems to me intuitively from listening to the Secretary-to-be a moment ago, and also from looking at the budget implications of creating another off-budget program that is really on-budget for purposes of Gramm-Rudman but is off-budget for purposes of anybody being able to do anything about it, it may well be much easier legislatively and more productive in the long run to authorize this program in the old fashioned way than to set up a new trust fund.

How would you respond to that?

Mr. CHAFEE. Obviously, once you get a trust fund in, then, of course, you're assured of the funding of it because clearly the fines that are going to be levied are way in excess of what would be required.

However, I know that the Administration—not just this Administration, but all Administrations—are against segregated trust funds. They just don't like them. I guess the rationale being that you may get too much money or you may get too little money in it. So that the inflow isn't geared to the purpose or the priorities that might be encompassed under the legislation. I recognize that.

So, any way we can get it, we'll take it. The way we've suggested, or, if the Administration objects to that, through the appropriation process.

I must say, it's good news to hear the Administration is for the amount. That helps the appropriation process a great deal. As we all know, if we can get the Administration with us, we've got a running start on these things.

Mr. BARTLETT. Thank you. I yield back, Mr. Chairman.

Chairman OWENS. Mr. Jontz? Mr. Martinez?

Mr. MARTINEZ. Senator Chafee, realistically, given the budget constraints and the budget problems that we have and the Gramm-Rudman requirement, what do you think are the chances that we could get an authorization for this?

Mr. CHAFEE. Well, I think they're pretty good.

Mr. MARTINEZ. Let me add—and a continued authorization for it.

Mr. CHAFEE. Well, I think the chances are pretty good if the Administration is for it. First of all, the money isn't that—I mean, I don't want to brush aside $15 million, but in the total concept of a budget that we're working with nationally, the $15 million is relatively modest. If you've got the committees for it and the Congress for it—I mean, this is a popular item.

Furthermore, you don't run into the objections that frequently you get that we're levying some requirement on the schools, mandating something, and not paying for it. We're not mandating anything; we're giving the schools a hand.

So, I think those factors, plus the Administration, which I believe is very important in all these undertakings, being for it, as Mr. Reilly indicated, gives us a good chance to get it.

Mr. MARTINEZ. Conversely, regarding the trust fund and knowing and guaranteeing that the money will be there from then on, do you feel it has a better chance or the same chance?

Mr. CHAFEE. Well, obviously, if you've got a trust fund, the chance of you getting the money are better. I might say that over in the Senate it isn't just the Administration that presents a stumbling block on trust funds. It's the Appropriations Committee. I mean, getting by that hurdle is as big as getting by the Administration.

Mr. MARTINEZ. Thank you, sir.

Mr. CHAFEE. Sometimes we succeed in it, but——

Chairman OWENS. Mr. Ballenger?

Mr. BALLENGER. No questions.

Chairman OWENS. Again, thank you for taking time out of your busy schedule, Mr. Senator.

Mr. CHAFEE. Thank you very much, Mr. Chairman.

Chairman OWENS. We look forward to working with you on this bill.

Mr. CHAFEE. Thank you.

Chairman OWENS. Our next witness is Mr. John Denver, the President of Windstar Foundation. We want to welcome Mr. Denver and announce ahead of time that we cannot make these tapes available to the general public.

[Laughter.]

Chairman OWENS. Mr. Denver.

STATEMENT OF JOHN DENVER, PRESIDENT, WINDSTAR FOUNDATION

Mr. DENVER. I thank you very much, Mr. Chairman, and distinguished members of the committee. It's truly a pleasure and a privilege to have this opportunity to submit testimony in support of legislation you're considering, H.R. 3684, the National Environmental Education Act.

You know, I've had the opportunity to testify in front of Congress and the Senate on a few other occasions and it's always an incredibly moving experience to me, this opportunity, this privilege that we have to participate in this way in the Democratic process, and I'm honored to be here.

To begin, I'd like to acknowledge your leadership in bringing such an important issue to this forum. There's nothing more fundamental to the future health of our Nation and the world than conserving and protecting the quality of the environments which support all life, and the key to creating that possibility in my mind is education.

Today and in the weeks to come we need continued leadership from you and your colleagues in order to approve this important legislation. You will be creating the necessary legislative support for a process of education that enables learners of all ages, and especially our youth, to make informed decisions and take responsi-

ble actions affecting the health of environments now and in the future.

I thank you for what you've already done; I thank you for what you will do to take this process forward.

You may know that I've been thinking about these kinds of issues for years. My concerns for people and the planet, for culture and nature in balance, have been reflected in my music since I first picked up a guitar and started to sing.

In addition to my music, I've worked for years to support issues related to people and the environment, including work to end hunger on the planet, protection of wilderness areas and support for this Nation's space program, all of which are ways to enhance the quality of life here on Earth.

As part of my personal commitment in 1976 with my friend Tom Crum, I established the Windstar Foundation, a non-profit organization dedicated to education and the environment. The Windstar Foundation is committed to action in support of a sustainable future. We're serving as a catalyst for informed decisions and responsible actions to benefit the environment locally and globally.

I've had the truly incredible opportunity to travel all around the world. I've seen a lot that I wish did not exist in the slums of Bombay and in the arid deserts of famine-struck Africa. Yet, out of all this human despair and environmental degradation I've seen much joy. It's a marvel to me that represents the tenacity and dignity of the human spirit, as well as the resilience of ecological systems.

I'm reminded of an African chief that I met in a village called Janga in Burkina Faso which is one of the poorest countries in the world. This man, who was the head of a village of 300 families living in the most desperate conditions you can possibly imagine—we asked him about the future at one point. He said, "Ah, the future is ours. We have learned a great deal and now when the rains come in Jala—God willing—when the rains come, we know what to do."

Now, people everywhere in every walk of life are yearning for a world that works, and I really believe that people all over the world share the same basic concerns. They want healthy food for themselves and their families, they want clean water to drink and fresh air to breathe. Without necessarily understanding how, they sense the need to live in a way that is sustainable.

Now, we know that we take and use resources from the earth in order to live, yet, I don't think any of us really wants to do that in a way that will prevent others, now or in the future, from being able to live in safe and healthy environments. But things are changing so quickly, and the consequences of our actions are so profound, that we humans are putting the whole planet at risk, starting with the actions we each take in our own homes in daily lives.

That's especially true for those of us who live in the highly-developed, highly-consumptive technological societies of the industrialized nations. For a whole variety of reasons that involve the new technologies we have developed, as well as the changes in our own lifestyles that remove us more and more from close contact with

the natural world and how it works, we damage the environment and its capacity to sustain life in the actions we take every day.

I don't believe that any of us really wants to do that. We want to live sanely and responsibly. But most often we don't really know what to do.

It's like the simple choice of the paper or plastic at the grocery store. A little over a year ago I went to our community grocery store and they asked me if I wanted paper or plastic. All of the sudden it hit me. I didn't know. It seemed to me that each was equally damaging or negative. So, at Windstar we developed a cotton cloth bag that you can take to the grocery store, or wherever you do your shopping, and I know a lot of people are doing that. I wish I had mine here with me today.

But it's one of those little things that each one of us can do, taking a reusable bag made of renewable resources—one simple action that we can take to conserve and use resources wisely.

More and more people live separate. I should say, more and more people live separate from real contact with the consequences of our actions. For example, we no longer take personal responsibility, most of us, for growing and gathering our own food. And I've been told that most Americans will spend less than four percent of their lives in the out of doors. I can't believe that.

Just knowing that suggests to me that now, more than ever, we need a process of education that involves people with the living world. We need to create a new wisdom based on ecological understanding and environmental literacy that prepares us to make informed decisions and take responsible actions to protect and sustain the quality of both our cultural and natural environments.

We need a systematic and comprehensive approach to developing such environmental literacy, particularly in the elementary and secondary schools of this Nation. As it stands now, approaches to environmental education in our schools are typically piecemeal. Education for environmental literacy should be pervasive and a priority.

Schools historically have been responsible for the civic education of our youth and we're now faced with a new societal need, one that requires us to include environmental literacy within our mandates for civic education.

All of this leads me to state my enthusiastic support for H.R. 3684, the National Environmental Education Act. It is my understanding that the Environmental Protection Agency would administer this Act, working in close cooperation with educators at local, state and national levels, as well as with other agencies and organizations that have expertise and a commitment to furthering environmental education.

We need a cooperative ethic and a conservation ethic to guide us in this decade of the environment. So I support the cooperative approach that is inherent in this legislation.

A special emphasis of this proposed legislation is to improve the professional support given to elementary and secondary teachers in order to more effectively help them to teach our youth. I can think of no more important investment to make. It is truly an investment in our future and in the young people who will guide tomor-

row and create the environments, support the environments that support all life.

It's clear to me that we need this legislation. Although I know that many individuals and organizations, including private nonprofit organizations, business and industry, public agencies, and others, have been working diligently and persistently to improve the environmental education of this country for many years, the job is too big and the need is too great for them to continue to face this challenge without more partners in the process.

The Federal Government, working cooperatively with other appropriate agencies and organizations, should be taking a leadership role. The challenges are enormous, the consequences of too little action too late are simply unacceptable. We are truly faced with issues of survival.

They affect us in households in every community in the United States and they affects each and every inhabitant of the planet. We need to start right here in the United States to accept a leadership role and our responsibility for creating an environmentally informed and responsible citizenry.

Now, Mr. Chairman, what I'm talking about to a large degree is preventive action. As one who has been a long supporter of preventive action, whether it has to do with health care or crime or war, I would like to underline my testimony with a little poem that I learned about prevention. I found this in a chiropractors office. This is the story of the ambulance down in the valley.

"It was a dangerous cliff, as they freely confessed, though to walk near its edge was quite pleasant till over the side slipped a duke and a prince and it had fooled many a peasant. The people all said something had to be done though their projects did not at all tally. Some said put a fence around the edge of the cliff; others an ambulance down in the valley.

"The lament of the crowd was profound and so loud as their hearts overflowed with great pity, but the ambulance carried the cry of the day as it spread to the neighboring cities. A collection was made to accumulate aid and dwellers and highway and Allah gave dollars and cents not to furnish a fence but an ambulance down in the valley for the cliff is all right if you're careful, they said, and if folks ever trip and are falling, it's not the slipping and sliding that hurts so much as the shock when they're stopping.

"And so for years, as these mishaps occurred, quick forth would the rescuers sally to pick up the victims who fell from the cliff with the ambulance down in the valley. Said one in his plea, 'it's a marvel to me that you give so much greater attention to repairing results than to curing the cause while you'd much better aim at prevention. The mischief, of course, should be stopped at its source. Come, friends and good neighbors, let's rally, it makes far better sense to rely on a fence than an ambulance down in the valley.'

"He's wrong in his head, the majority said. He would end all our earnest endeavors. He's the kind of a jerk that would halt our good work, but we will support it forever. Don't we pick up them all just as quick as they fall and treat them with care quite liberally? A superfluous fence is of no consequence if the ambulance works in the valley.

"Well, the story is clear as I've given it here, though things oft occur which are stranger or humanely assert to repair all the hurt than the plan of removing a danger. Before it all ends, it's time to begin to attend to these things rationally. Yes, build up the fence and let us dispense with the ambulance down in the valley."

In closing, Mr. Chairman——

[Laughter.]

Mr. DENVER. [continuing] I sing much better than I speak. This is a song which perhaps underlines everything that I've said and will be said here today.

My old friend Buck Mr. Fuller spoke about the greatest challenge facing the human race is one that is metaphysical in nature. He said we must educate people to the degree that spontaneous actions, spontaneous efforts—the kind of which Mr. Ballenger talked about earlier, the kind of which were honored last night at the White House by President Bush—people taking individual action to begin working in whatever ways they can create to be part of creating a sustainable society and a healthy environment, a sustainable future.

So this song expresses my feelings about this. It was written several years ago. It's called "It's About Time."

[Singing.]

[Applause.]

Mr. DENVER. Thank you. Mr. Chairman, I strongly support what you're doing here today and it would be an honor to work with you in whatever way I can to see this come to pass, to see that it lives very strongly in the hearts of all of our children, of all of our people and people throughout the world.

Thank you for allowing me to be here today.

[The prepared statement of John Denver follows:]

HR 3684
NATIONAL ENVIRONMENTAL EDUCATION ACT

Testimony by
John Denver
President, Windstar Foundation
April 19, 1990

Mr. Chairman and distinguished members of the Committee, it is my pleasure to have this opportunity to submit testimony in support of legislation you are considering, HR 3684, the National Environmental Education Act.

To begin, I would like to acknowledge your leadership in bringing such an important issue to this forum. There is nothing more fundamental to the future health of our nation and the world than conserving and protecting the quality of the environments which support all life--and the key to creating that possibility is education. Today, and in the weeks to come, we need continued leadership from you and your colleagues in order to approve this important legislation. You will be creating the necessary legislative support for a process of education that enables learners of all ages--and especially our youth--to make informed decisions and take responsible actions affecting the health of environments, now and in the future. Thank you for what you have already done--and thank you for what you will do--to take this process forward.

You may know that I have been thinking about these kinds of issues for years. My concerns for people and the planet, for culture and nature in balance, have been reflected in my music since I first picked up a guitar and started to sing. In addition to my music, I have worked for years in support of issues related to people and the environment--including work to end hunger on the planet, protection of wilderness areas, and support for this nation's space program as one way to enhance the quality of life here on Earth. As part of my personal commitment, in 1976, with my friend Tom Crum, I established the Windstar Foundation--a non-profit organization dedicated to education and the environment. The Windstar Foundation is committed to service in support of a sustainable future. We are serving as a catalyst for informed decisions and responsible actions to benefit the environment--locally and globally.

THE WINDSTAR FOUNDATION 2317 SNOWMASS CREEK ROAD SNOWMASS, CO 81654 303 927 4777 FAX 927 4779

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I have had the incredible opportunity to travel all around the world. I have seen a lot that I wish did not exist--in the slums of Bombay, in the arid deserts of famine-struck Africa. And yet out of all of this human despair and environmental degradation, I have seen much joy. It is a marvel to me that represents the tenacity and dignity of the human spirit, as well as the resilience of ecological systems. People everywhere, in every walk of life, are yearning for a world that works. I really believe that people all over the world share the same basic concerns--they want healthy food for themselves and their families, they want clean water to drink and fresh air to breathe. Without necessarily understanding how, they sense the need to live in a way that is sustainable. We know that we take and use resources from the Earth in order to live, and yet I don't think any of us really wants to do that in a way that will prevent others--now and in the future--from being able to live in safe and healthy environments. But things are changing so quickly and the consequences of our actions are so profound that we humans are putting the whole planet at risk, starting with the actions we each take in our own homes and daily lives. That is especially true for those of us who live in the highly developed, highly consumptive technological societies of the industrialized nations. For a whole variety of reasons that involve the new technologies we have developed, as well as the changes in our own lifestyles that remove us more and more from close contact with the natural world and how it works, we damage the environment and its capacity to sustain life in the actions we take every day. I don't believe that any of us really wants to do that. We want to live sanely and responsibly. But most often we don't really know what to do. It's like the simple choice of paper or plastic at the grocery store. We hear one thing from some experts and another from others. This first struck me when I went to the grocery in my community and the check out person asked me whether I wanted paper or plastic. I didn't know! So now I take my own bag whenever I can. This one happens to be one the Windstar Foundation makes available--but lots of folks are offering these now. It takes a little planning ahead, but taking a reusable bag made of renewable resources to the grocery is one simple action we can each take to conserve and use resources wisely.

More and more, people live separate from real contact with the consequences of our actions. For example, we no longer take personal responsibility, most of us, for growing and gathering our own food. I have been told that most Americans will spend less than 4% of their lives in the out of doors. Incredible. Just knowing that suggests to me that now, more than ever, we need a process of education that involves people with the living world. We need to create a new wisdom based on ecological understanding and environmental literacy that prepares us to make informed decisions and take responsible actions to protect and sustain the quality of both our cultural and natural environments. We need a systematic and comprehensive approach to developing such environmental literacy--particularly in the elementary and secondary schools of this nation. As it stands now, approaches to environmental education in our schools are typically piecemeal. Education for environmental literacy should be pervasive, and a priority. Schools historically have been responsible for the civic education of our youth. We are now faced with a new societal need--one that requires us to include environmental literacy within our mandates for civic education.

All of this leads me to state my enthusiastic support for HR 3684, the National Environmental Education Act. It is my understanding that the Environmental Protection Agency would administer this act, working in close cooperation with educators at local, state and national levels, as well as with other agencies and organizations that have expertise and a commitment to furthering environmental education. We need a cooperative ethic and a conservation ethic to guide us in this decade of the environment--so I support the cooperative approach that is inherent in this legislation.

A special emphasis of this proposed legislation is to improve the professional support given to elementary and secondary teachers--in order to more effectively help them to teach our youth. I can think of no more important investment to make. It is truly an investment in our future--in the youth who will guide tomorrow, and the environments that support all life.

It is clear to me that we need this legislation. Although I know that many individuals and organizations--including private non-profit organizations, business and industry, public agencies and others--have been working diligently and persistently to improve environmental education in this country for many years, the job

is too big and the need is too great for them to continue to face this challenge without more partners in the process. The federal government, working cooperatively with other appropriate agencies and organizations, should be taking a leadership role. The challenges are enormous and the consequences of too little action, too late, are unacceptable. We are truly faced with issues of survival and the quality of life. They affect us in households in every community in the United States, and they affect each and every inhabitant of the planet. We need to start right here, in the United States, to accept our responsibilities for creating an environmentally informed and responsible citizenry.

As I have said in the lyrics to one of my songs, "It's about time we realize it, we're all in this together. It's about time we recognize it, it's all of us or none . . . It's about time we start to see it, the earth is our only home . . . It's about time, it's about changes, and it's about time . . . It's about you and me together, and it's about time."

Thank you for this opportunity to share my perspective on this important legislation.

Chairman OWENS. Thank you again for agreeing to appear, Mr. Denver.

I'd like for you to elaborate a bit on the very emphatic statement you made. You said that the private sector can't do it alone. Why not?

Mr. DENVER. Well, we need leadership and we need it both from the people and we need the foundation to stand on that comes from our government to acknowledge those things that people desire, that want to have happen, and to be sure that that's what occurs.

Quite often, and to a large degree, in business the things that have occurred have not come out of malicious intent but because we didn't know any better. Yet, now as we've come to know a little bit better, we recognize that some of the changes that have to be made are in fact going to be expensive because they come so very late.

So it's hard to get people in the private sector to change and it's hard to get them to support measures sometimes which are going to come back and cost them. In this way, most specifically, we need the support of our government.

Chairman OWENS. Thank you. Mr. Bartlett.

Mr. BARTLETT. Thank you, Mr. Chairman. Mr. Denver, I have to say that of everyone in the country you have probably done more in the sense of public education and educating people about the need to understand the environment and to work with it. On behalf of all of us and of Congress I very much appreciate what you've done.

I have no questions. I think that this bill will go through and I think it will provide some leadership in that area, additional leadership, and some assistance. But as you so eloquently said, most of the actions that need to be taken are private actions. It does require the public imprimatur but the imprimatur is only to cause private actions to occur.

I very much appreciate what you've done.

Mr. DENVER. Thank you, sir.

Chairman OWENS. Mr. Jontz.

Mr. JONTZ. Thank you, Mr. Chairman. I want to join Mr. Bartlett in saying thanks for all of your good work, and also add a note of thanks to you for your appearance last week in Indianapolis at the Farm Aid Concert as a member of the House Agriculture Committee and a representative of a rural district where a lot of family farmers are trying to make a living. We really appreciate what you have done to call to the attention of the people of our country the challenges facing us in family farm agriculture.

It isn't a matter before the jurisdiction of this committee, Mr. Denver, but I just want to take half a minute to express to you an encouragement for, perhaps, some support you can give to an effort now being made in the Congress to protect one of the important aspects of our national legacy which is endangered. I'm speaking about the ancient forests of the Pacific Northwest.

I filed a bill just a couple of weeks ago, the Ancient Forest Protection Act, to try to save some of those forests. We're cutting our forests in the Pacific Northwest at a faster rate than the Brazilian rain forests are being cut. As you know very well, those forests are valuable to the people of our country in many ways.

I appreciate the Chairman's patience in allowing me to just take a minute to raise that issue, and I hope we have the opportunity to work together on that issue.

There are so many challenges that face us; education is the basis for all of them. Your appearance here today will be a big boost to our efforts here in the Congress.

Mr. DENVER. Thank you, Mr. Jontz. You know, Mr. Chairman, what he brings up about what's going on in the Northwest—there are lumbermen up there who are talking about their jobs and their livelihood who are greatly concerned that they're going to be deprived of that by what's going on in the environmental movement and what might occur here with this legislation.

But they, more than anyone else—or as much as anyone else—are some of those who need to be educated about the ramifications of what they're doing and how it affects our future now, their future, the lives of their children and beyond that.

There are changes that have to take place and we need to learn, we need to have some foundation to make such critical changes in our own lives. Sometimes the only way you can move people in that direction is through legislative action.

Thank you.

Chairman OWENS. Mr. Ballenger.

Mr. BALLENGER. Thank you, Mr. Chairman. A kind of a strange coincidence occurred today that I would like to mention to the committee. Every Thursday morning at 8:00 the Congressional prayer breakfast meets and the speaker today was Ben Nighthorse Campbell from out in Oklahoma, an Indian, and very proud of it.

He brought the chief—I guess this is the proper description—the chief holy man of the Cheyenne Nation here to speak to us this morning. He came to bless the earth and he said he had a real difficult time because everything was paved. So he almost felt like he was going to get arrested digging up some of the grass on the curb there to bless the earth.

He spoke to us today and one of the questions we asked him was, in all of the religion or—I guess you could call it religion of the Indians, was there anything common among the Cheyenne the Sioux and all the rest of them. It fit so beautifully with what we're all talking about today and Sunday and so forth—he said the one thing that was common throughout all Indian lore was that any damage you do to nature eventually you destroy yourself.

I think that basically that's what you're speaking of in the Northwest and those of us that live here today. But, you know, you destroy the trees, you destroy the animals. This was Indian lore he was speaking to us about. Eventually it ties right in to the fact that you're doing a little bit of damage every time to yourself and in the long run you destroy yourself.

It's strange that it happened today and it's strange that it fits in with what you say. I'm just glad I had the opportunity to pass it on to you.

Mr. DENVER. Yes, sir. Mr. Campbell is actually a Congressman from Colorado and I know him only a little. But my son Zachary, adopted son, is part Cheyenne and what has been a bit part of my life, especially since Zachary came into it and for long before that, was a study—a sense of what was so important and viable to the

lives of our Native Americans. Truly there is where I became most completely aware of the value of nature and our responsibility to it and how much we owe to it in a sense.

So I appreciate what you say. Thank you.

Chairman OWENS. Mr. Martinez.

Mr. MARTINEZ. Thank you, Mr. Chairman. Let me join my colleagues in commending you for your activities and your concern for the environment. I'm glad you corrected my colleague, Mr. Ballenger, that Ben Nighthorse Campbell is from Colorado. I claim him as a brother too. I was born in Walsenberg, Colorado but I now live in California. Some day I'll go back to Colorado.

But the thing that you mentioned—a couple of things you mentioned—are partnership and leadership. You know, we've found in so many things that we have been successful at that it's been because of partnerships between education, government and business. Business is an important part of that partnership and government is too, if we're going to achieve that education and really provide that leadership.

But the main thing that you mentioned was the spontaneous element getting people to do it spontaneously. As I mentioned to Mr. Reilly, I go to Silver Lake sometimes. Whenever I can, I get away to a place in Pas Rolas out by Lake Nacimiento because it's nice wilderness area. It's open, there's not a lot of people there. I climb the mountains of Utah sometimes. I do that to get away because they're beautiful places.

But even there I see evidence of polluters, people who don't care about the environment. If you really look, it's mostly people that come from urban areas that, although they love to get out there and enjoy it, they don't want to protect it, they don't want to take care of it.

The big problem that I see is if we talk about funding and we get hung up on the funding of this and how we're going to fund it is that it doesn't get done and somehow we still don't get to that point that you mentioned of being spontaneous.

I think you're absolutely right in saying that we have to be spontaneous about our concern for the environment. Instead of throwing that paper at that wastebasket and it misses—instead of leaving it there we all need to be going over and picking it up and putting it in. When we leave a campsite, cleaning up that campsite, and leaving it the way we found it, or better, should be a first principle of all campers.

I know that you've traveled all over the world and you've seen some great environmental problems that you're concerned about. I think you're right in saying we're now coming to a period in time when we're starting to deal with that.

Sunkist just announced they won't buy tuna from people that use nets because they're destroying dolphins. Well, that's great. But what was the first reaction to that? All the people that catch that tuna with those nets say, you're doing us out of a job. You mentioned the lumberjacks.

These are the people that have to be educated. You will be able to say, you may still make a living doing it with the concerns for the environment. We'll need to do that.

In your travels through the United States—and I know you've traveled all over the United States—haven't you seen that callousness that exists? And, can you give us a word of encouragement on how we need to address that callousness and get us to do it in that spontaneous way that you're talking about?

Mr. DENVER. Yes, sir. Again, it has to do with education and simply pointing out to people. We at Windstar ask people to make conscious choices, to always live consciously. You know, so many of us sometimes walk around with our heads someplace else and we're not really conscious of the moment and what's going on.

I was in Syracuse, New York a few years ago in the fall doing a concert. I'd been out for a morning jog, this was a Sunday morning. I'd been in Syracuse quite a few years before in the fall and New England is just gloriously beautiful. It was a crisp bright morning and I went out for a run.

There was so much trash around what once had been one of the loveliest campuses that I've seen in this country that I was appalled I was depressed. Pretty soon I could no longer run. As I was walking back to my hotel, I was asking people why there was all this trash around. They said, well, there was a Bon Jovi concert last night, or somebody like that.

You know, I don't know about that concert or what they represented, what they put out there, but I know that concert was not responsible for all the mess that I saw.

From that day in all of my concerts, not only in this country but all around the world, and at Windstar, in asking people to make conscious choices I've asked people to pick up one piece of trash a day. Not just be responsible for the ones that you're throwing away, but as you walk around town, as you're out in the woods, as you're walking in some pristine highway out in the wilderness, notice the beer can over here and stop and pick it up. Pick up a piece of trash every day and that makes a difference.

That starts to be a part of your consciousness and then you'll be looking for the other things that you can do that will be a part of creating a sustainable future and a healthy environment.

So I appreciate what you say very much. We need to be reminded. Sometimes it has to be hammered in at us and it has to be constant until it gets to be a part of our conscious behavior. I think it's going to take time, but I think the time is now and I think with this kind of leadership and what's going on this week here in Washington and around the world with Earth Day, that that will come forth.

Mr. MARTINEZ. Thank you very much, Mr. Denver.

Mr. DENVER. Thank you, sir.

Chairman OWENS. Thank you, Mr. Denver. On that note, I'll take the message to New York that they should pick up a piece of trash every day and we'll have eight million pieces of trash picked up every day.

[Laughter.]

Mr. DENVER. Wouldn't that be great?

Chairman OWENS. That would be great. Thank you again. We really appreciate your coming.

Mr. DENVER. Thank you, sir.

Chairman OWENS. Next we have a panel of witnesses: Dr. Gary San Julian, Vice President of Research and Education, National Wildlife Federation; Professor Terry Wilson, Director of Mathematics, Science and Environmental Education, Western Kentucky University; Mr. Darryl Roberts from Brooklyn, New York; Mr. Steve Kussmann, Chairman, Alliance for Environmental Education; Dr. Kathleen Blanchard, Vice President for Research and Education at the Quebec-Labrador Foundation.

I would like to note for the members of the subcommittee that Congressman Miller could not be here and we'd like to enter his written testimony into the record without objection.

[The prepared statement of Hon. George Miller follows:]

Statement of the
HONORABLE GEORGE MILLER

on

H.R. 3684
"The National Environmental Education Act"
before
Subcommittee on Select Education
April 19, 1990

Mr. Chairman: Thank you for the opportunity to appear before you today to discuss H.R. 3684, the "National Environmental Education Act."

I am especially pleased to be testifying about H.R. 3684 during the Twentieth Anniversary week of "Earth Day."

H.R. 3684 now has 54 cosponsors in the House and is supported by many environmental organizations, including the National Wildlife Federation, the Alliance for Environmental Education, the National Education Association, the Western Regional Education Council and the State of Alaska.

An identical bill, S. 1076, has been introduced by Senators Burdick, Mitchell, Chafee, and 24 other senators.

Environmental problems have become increasingly complex, technical, and interrelated in recent years. There is growing evidence that we now face environmental problems on a global scale.

Although the 1970 "Earth Day" put environmental concerns on our national agenda, I'm afraid that we are still facing many of the same environmental issues today--and that we will continue to do so in the future.

Establishing a national environmental education program will prepare tomorrow's leaders to respond effectively to increasingly complex national and global environmental problems.

The purpose of H.R. 3684 is to increase the public understanding of the natural environment and to advance and develop environmental education and training.

The bill will create an Office of Environmental Education within the EPA and will establish programs to prepare teaching materials and train teachers. It will also provide grants to local education agencies, colleges, and universities for the development of environmental education programs, and it will establish awards to recognize excellence in environmental education.

This bill is modeled after the original 1970 Environmental Education Act and the 1974 and 1978 Amendments. You will recall that this legislation was repealed in 1981 by the Reagan Administration.

A total of $15 million per year is authorized to implement the Act. This legislation establishes a trust fund to support the programs of the Act, and is funded with 50% of the penalties paid by violators of environmental laws. Funding from the Trust Fund will help ensure sustained funding for the programs of this Act.

Based upon my 15 years of experience as a member of the Interior Committee, I strongly believe that the Federal Government should promote and play a more active role in the development of environmental programs.

The commitment to the future of our existence depends upon our finding workable solutions to these complex environmental problems. The National Environmental Education Act will help ensure that we have an environmentally educated citizenry and the professionals we need to accomplish those tasks.

Chairman OWENS. We'll begin with Dr. Gary San Julian.

STATEMENTS OF DR. GARY SAN JULIAN, VICE PRESIDENT OF RESEARCH IN EDUCATION, NATIONAL WILDLIFE FEDERATION; PROFESSOR TERRY WILSON, DIRECTOR, MATHEMATICS, SCIENCE, AND ENVIRONMENTAL EDUCATION, WESTERN KENTUCKY UNIVERSITY; DARRYL ROBERTS; STEVE KUSSMANN, CHAIRMAN, ALLIANCE FOR ENVIRONMENTAL EDUCATION; AND DR. KATHLEEN BLANCHARD, VICE PRESIDENT FOR RESEARCH AND EDUCATION, QUEBEC-LABRADOR FOUNDATION

Dr. SAN JULIAN. Thank you, Chairman Owens and distinguished members of the Subcommittee on Select Education.

The National Wildlife Federation welcomes this opportunity to present our views on H.R. 3684, the National Environmental Education Act. We are the world's largest non-profit conservation education organization with 5.8 million members and supporters. The National Wildlife Federation has been involved in environmental education throughout our 53-year history and has proven expertise in developing and disseminating environmental education materials and training educators.

Given the complex array of global environmental problems, we view this proposed legislation a critical and necessary step in creating an environmentally literate citizenry. We believe that all citizens should have an understanding of how the world works, how ecological, social and technological systems interact. Everyone must understand that the Earth's life support system is fragile and that each of us make decisions every day that affect that delicate balance, and we should be held accountable for those choices.

We believe that the only way to achieve environmental literacy is through education. H.R. 3684 is a major step forward in realizing the goal of making our citizens aware of their impact on the environment and motivating them to change. The inadequate implementation and ultimate demise of the Environmental Education Bill of 1970 was a matter of great concern to our members and I believe a setback in the Nation's efforts to promote environmental literacy.

Currently there is no Federal coordination for a comprehensive and continuing national environmental education program. We commend Congressman Owens and this bill's many co-sponsors on taking the initiative to once again restore our Nation's leadership in this vitally important and too long neglected educational endeavor. Without such legislation, tomorrow's leaders will be ill-prepared to solve the increasingly complex environmental problems they will face.

We need to make sure our young leaders in their century know as much about ecology, environmental ethics, natural resources, and their interrelationship as they do about history, language, arts, and the social sciences. We must send this message to the students in the inner-city schools as well as those in the rural communities.

Overall NWF heartily supports the direction and content of this bill. We believe it will provide the national leadership and needed support for environmental education. Although this bill addresses many of the needs identified by the environmental community, the

implementation of the Act could be enhanced to make it even more comprehensive and effective.

Given the recent Bruntland report "Our Common Future" and the work of international organizations, it is clear that society has begun to recognize the global implications of the environmental problems. We recommend inclusion of language allocating funds to support international environmental education efforts designed to increase cooperation, to exchange training methods and materials and to promote international internships.

We also support the efforts of the bill to strengthen environmental education programs aimed at all levels of society and would endorse language that recognizes the importance of educating nonformal audiences to include materials for ethnic and culturally diverse peoples and individuals with special educational needs.

To make the most efficient us of funds, we would also like to see the required evaluation of existing environmental education networks and the continued funding of those networks with proven track records, such as the federally-sponsored ERIC network, and support for already outstanding environmental education programs such as Nature Scope, Project Learning Tree, and Project Wild.

We hope that the bill's proposed provisions for internships is intended to also encourage and include participation of classroom teachers and other educators. This will help motivate those professionals currently in the field and enhance that so important multiplier effect.

In the same vein, we support broadening the current national awards program in the bill to include recognition of outstanding student activities. This type of public recognition of scholastic achievement will motivate others and add credibility to the curriculum.

Although we realize there are limitations to the funding we believe that it is critical that the bill be funded at a minimum of $15 million and would encourage increasing the level of funding in subsequent years. As a former classroom teacher and a college professor for 20 years, it is vitally important that this funding continue on and is balanced throughout the years.

Through the years it's been our experience that expertise for environmental educational training exists throughout the country, in schools, in not-for-profit organizations, museums, nature centers, and other educational institutions and organizations. We would encourage language ensuring the continuation of proven and effective training initiatives.

Finally, the National Wildlife Federation has proclaimed the 1990s as the Decade of the Environment, and Earth Day serves as a kick-off to that decade. This is the time—indeed, the time we must deal with global environmental concerns or the world our children inherit will seriously be degraded. This bill provides vision and leadership to help build the environmentally literate citizenry we need.

We at the National Wildlife Federation are ready and willing to work with the members of this subcommittee to ensure the timely passage of the bill. Thank you.

[The prepared statement of Dr. Gary San Julian follows:]

COMMENTS OF

THE NATIONAL WILDLIFE FEDERATION

ON

H.R. 3684

NATIONAL ENVIRONMENTAL EDUCATION ACT

BEFORE THE HOUSE SUBCOMMITTEE ON

SELECT EDUCATION OF THE COMMITTEE

ON LABOR AND EDUCATION

PRESENTED BY GARY SAN JULIAN

VICE-PRESIDENT OF RESEARCH AND EDUCATION

NATIONAL WILDLIFE FEDERATION

PREPARED BY:

Judy Braus

Director of School Programs

RESEARCH AND EDUCATION DEPARTMENT

NATIONAL WILDLIFE FEDERATION

Doug Miller

Director of Alaska Resource Center

AFFILIATE AND REGIONAL PROGRAMS DEPARTMENT

NATIONAL WILDLIFE FEDERATION

APRIL 14, 1990

Chairperson Owens and Distinguished Members of the Subcommittee on Select Education:

The National Wildlife Federation (NWF) welcomes this opportunity to present our views on H.R. 3684, the "National Environmental Education Act." The NWF is the world's largest non-profit conservation education organization with over 5.8 million members and supporters in 52 states and territories. The NWF has been involved in environmental education throughout our 53-year history, and has proven expertise in developing and disseminating environmental education materials, such as The CLASS Project, NatureScope, and Wildlife Week; training teachers in preservice and in-service workshops; sponsoring public education programs; and providing technical assistance to the environmental education community. This year alone, we are distributing more than 600,000 Wildlife Week Educator's Kits to America's schools, homes, nature centers, and museums, highlighting how children of all ages can take individual and group action to help protect the earth's resources.

Given the complex array of global environmental problems, we view this proposed legislation as a critical and necessary step in creating an environmentally literate citizenry. What does environmentally literate mean? In an environmentally literate society, every citizen has an understanding of how the world "works"--how biological, physical, technological, and social systems interact. Every citizen values the environment as the basis of human well-being. Every citizen understands that the earth's life support systems are fragile, and that each of us makes decisions every day that affect this support system. And every citizen possesses the skills and commitment to effectively participate in making informed and environmentally sound resource decisions. We believe we attain this literacy through education. And H.R. 3684 is a major step forward in realizing this crucial goal.

The inadequate implementation and ultimate demise of the Environmental Education Act of 1970 (PL 91-516) was a matter of great concern to our members and a setback in the Nation's efforts to promote environmental literacy. We commend Representative Miller and this Bill's many cosponsors on taking the initiative to once again restore our Nation's leadership in this vitally important and too long neglected educational endeavor. Without such

legislation, tomorrow's leaders will be ill-prepared to solve the increasingly complex environmental problems they will face.

Overall, the NWF heartily supports the direction and content of this Bill. We believe it will provide the national leadership and needed support for environmental education. And we are particularly supportive of the recommendations to have the Bill implemented through the Environmental Protection Agency and funded through appropriations from penalties collected in response to the violations of key environmental protection regulations. We also endorse the provisions in this Bill to train teachers and other environmental professionals; to support the development and dissemination of innovative curricular and supplementary materials; to provide opportunities for student internships; and to recognize outstanding achievement in the environmental education field by sponsoring an awards program.

Although this Bill addresses many of the needs identified by the environmental education community, I would like to offer the following comments and suggestions as ways to strengthen H.R. 3684 and make it even more comprehensive and effective in creating the environmentally literate citizenry I spoke of earlier.

1. Given the recent Bruntland report "Our Common Future" and the work of international organizations such as UNEP (United National Environment Program), it is clear that society has begun to recognize the global implications of environmental problems. We recommend inclusion of language specifically allocating funds in support of international environmental education efforts that are designed to increase international cooperation; to exchange training methods, materials development, and dissemination models; to promote international EE internships and staff exchanges; and to support international networking.

2. We also support the efforts of the Bill to strengthen environmental education programs aimed at all levels of society, and would endorse language that recognizes specifically the importance of educating non-formal audiences, such as the general public, nature center and museum staffs, parents, and others. We would also encourage language that specifically promotes the development of materials and training programs aimed at meeting the needs of ethnic and culturally diverse audiences.

3. To make the most efficient use of funds, we would also like to see the required evaluation of existing environmental education networks and the continued funding of those networks with proven track records. For example, the Federally-sponsored ERIC (Educational Resources Information Center) network at Ohio State University has been instrumental in disseminating environmental education information through computer and print mediums to all segments of society. Many other successful training and material dissemination networks already exist and need continued funding and support.

4. We hope that the proposed H.R. 3684 provision for internships is intended to also encourage and include the participation of teachers and other educators. We feel that by broadening the pool of participants beyond students alone, the internship program can help motivate professionals currently in the field. We also hope this provision encourages internships that provide environmental education experiences within agencies and organizations throughout the country, including internships in the Department of Education, the U.S. Park Service, the Peace Corps Environment Sector, and other Federal environmental education

programs. We would also support expanding the program to offer a limited number of internships in non-governmental organizations, including schools, not-for-profit organizations, and other institutions.

5. In the same vein, we would support broadening the current national awards program called for in the Bill to include recognition for student achievement. By officially and publicly recognizing those young people who successfully carry out action-oriented and effective projects, the program can motivate others to do the same.

6. Although we realize there are limitations with the funding mechanism of this Bill, we would like to see the programs in H.R. 3684 supported with increasing appropriations annually, as revised in S. 1076. We feel that the additional funds will ensure that programs administered by the Office of Environmental Education are more effective and far-reaching, particularly the grant and training initiatives outlined in the Bill.

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7. It's been our experience that the expertise for educational training exists throughout the country--in schools, non-for-profit organizations, museums, nature centers, and other educational institutions and organizations. We would encourage language ensuring the continuation of proven and effective training initiatives, and we recommend that the newly created Office of Environmental Education be encouraged to seek and, as appropriate, fund proposals from throughout the country that recognize and accommodate the different regional and grade level training needs.

8. And finally, we would like the Bill to emphasize the <u>total</u> environment. We therefore recommend cutting the word "natural" when referring to the environment.

The NWF has proclaimed the 1990s as the "Decade of the Environment." This will be the time when we MUST deal with global environmental concerns, or the global environment that our children inherit will be seriously degraded. This Bill provides the vision and leadership to help build the environmentally literate citizenry we need. We look forward to working with the Subcommittee and Committee to ensure the timely passage of this Bill.

Chairman OWENS. Thank you. Professor Terry Wilson.

Mr. WILSON. Thank you, Mr. Chairman. I appreciate the opportunity to speak with you today. I've been asked to give somewhat of a historical perspective on where we've been going in terms of the Federal effort in environmental education over the last 20 years. I think that's been done to a certain extent already so I'll try to keep these remarks as brief as possible.

I would like to start out by saying, though, that the term environmental education very often means many things to many people, including those of ourselves who refer to ourselves as environmental educators. The multiplicity of meanings is due, at least in part, to an outgrowth of the relative newness of the term, the nature of its origins, and the variance in the goals of its professionals.

In fact, defining environmental education, particularly for the benefit of those who reside in one of the more established niches of the academic world, is considered by many to be a continuing dilemma. While some may see education about and for the environmental to be an essential ingredient in environmental improvement, others, such as many of the school teachers that I work with every day, see also environmental education as a sound approach to improving education in general.

No matter what, most environmental educators would agree, however, that environmental education is aimed at producing a citizenry that is knowledgeable concerning both the biophysical and the cultural environment, its associated problems. People are aware of both the social and technical mechanisms that can help solve those problems and motivate it to work towards their solutions.

The education of human beings to improve the quality of the environment was the overriding goal of the Environmental Education Act of 1970. That Act, Public Law 91-516, established the Office of Environmental Education within the U.S. Office of Education, provided funds for grants for the development of multidisciplinary and interdisciplinary curricula for levels ranging from pre-school to adults, established an advisory council for environmental education, and provided for the delivery of technical assistance to states in developing state-wide programs in environmental education.

The Act did stress the interdisciplinary nature of environmental education. This principle was even evident in the development of passage of the Act itself. As the report of this House committee had noted at that time, one task of environmental education should be to put the pieces back together again, to gain a view of the whole so that relationships among disciplines can be clarified and the consequences of individual acts as they affect the total environment can be recognized.

The Environmental Education Act of 1970 came at a time when a myriad of activities, both public and private, pertaining to the improvement of the environmental quality was commencing. However, the process of passing this law became an example of a legislative executive conflict. The law was an effort of the Congress, and the U.S. Office of Education objected to the creation of a law that dictated how they should address environmental education.

During the next three years, the law failed to live up to the high expectations that accompanies its passage. Of the $45 million authorized in funding for that period, less than $6 million was actually spent. After one year had passed, the U.S. Office of Education had failed to create the Office of Environmental Education and set up the National Advisory Council for Environmental Education, both of which were mandated by the Act itself.

These delays, and the failure to take advantage of the grant provisions of the Act, soon saw waning of support from various parts of the environmental education community. Even though nearly 2,000 proposals were submitted during the first year of the Act's funding, only 75 were actually funded.

The Environmental Education Act of 1970 was eventually extended, with amendments in 1974 and 1978, but the rhetoric of its originators was never close to being actualized. Today the U.S. Office of Environmental Education of course does not even exist and the only place that environmental education visibly appears in the programs of the current U.S. Department of Education is with the Educational Resources Information Center, ERIC, which maintains a very viable science, mathematics and environmental education clearinghouse at the Ohio State University.

This is not to say that environmental education is not alive and well in the United States. A viable diversity of programs exist through the efforts of other Federal agencies, state governments, higher education institutions, public schools, and non-formal educational entities. However, very few of these efforts are a direct result of the passage of Public Law 91-516.

Over the same period of time a variety of other approaches to the implementation of environmental education programs has been developed. Many of these have occurred through the leadership and/or assistance of other Federal agencies besides the U.S. Department of Education. Such programs have been facilitated through such agencies as the U.S. Fish and Wildlife Service and the National Park Service, the Forest Service and the Soil Conservation Service, just to name a few.

Of particular interest was an effort launched through the leadership of the Tennessee Valley Authority. During the last 14 years TVA has been the major force behind the creation of a network of university-based centers for environmental education. Currently 16 such centers exist within parts of the seven states served by TVA, parts of the Tennessee River watershed.

Having been initiated by contractual agreements with TVA, such contracts have provided these universities with seed monies to help establish centers that eventually could become hard-line entities within their respective institutions.

Although all 16 of the existing centers in the TVA network have embraced the center concept and are involved in environmental education programming, there has been no direct attempt by TVA to dictate what the goals of these centers should be.

TVA has taken the position that they were assisting in the development of a network of centers and that as a Federal agency mainly involved in resource management, it should not be in the business of dictating educational policy to institutions of higher education that are actively involved in that endeavor. However, re-

search has indicated that though the centers and the network operate somewhat independently, the goals and objectives of the centers have become very similar.

In addition, the networking concept has enabled the collective group of universities to accomplish much more together than would have been possible individually, given the same amount of resources. In 1989 alone, the TVA network of centers for environmental education reached over 7,600 teachers in workshops, developed and field tested 75 new programs and provided regional outreach to 176 counties which represents 86 percent of the TVA service region.

These efforts impacted approximately two-thirds of the students in the Tennessee Valley Region, at a current annual cost of only 24 cents per student by TVA.

In addition, TVA has demonstrated that a Federal agency can provide an infrastructure that can far outlast short-term systems of grants and contracts. At Western Kentucky University where I hang out, the center we have has developed into a recognizable regional resource that continues to work with TVA but also has built relationships with other agencies, Federal, state and local, as well as a host of non-governmental organizations involved in education about and for the environment.

In considering some of the developments that have shaped environmental education programs in the past 20 years, it must be emphasized that the projects that have become sustainable programs have done so largely because there has been a system created to support them long after any initial support may have faded.

Such has been the case with the TVA model which is currently being promoted nationwide by the Alliance for Environmental Education in developing a national network of environmental education centers.

As this body considers the possibility of a new environmental education act, several points should be considered.

Number one, if an Office of Environmental Education is to be created, it should seek to network with programs that already exist within the Federal structure. In addition, it should attach itself strongly to networking efforts currently underway through many of the non-governmental organizations involved in the Alliance's National Network Project.

Number two, environmental education and training programs developed under such an Act should not be concentrated in a few large institutions. Efforts must be made to recognize the value of a broad-based approach to the development of environmental education.

Number three, grants awarded through such an Act should be based on a system of matching dollars so that as a program develops over a period of several years the organization receiving the grant can gradually provide more and more direct support. This will encourage the continuation of such program development efforts long after the funding from this Act stops supporting a particular project.

Funding for such an Act must be substantial. Environmental education must be seen to be a form of environmental protection. If only a small portion of the funds currently being spent on cleaning

up our environmental disasters were channelled into a sustainable environmental education program, many of the programs lurking in the future could be avoided. Prevention may ultimately be our only solution, and education is the key to prevention.

Finally, the passage of the proposed legislation can provide a very visible message to the public that education about and for the environment is indeed of paramount importance. However, the implementation of such an Act should honor the work that is already being done in the field. We need not reinvent the wheel.

In the field of environmental education there are already a number of well-conceived wheels that can become viable parts of a national effort. What we need perhaps are some axles to connect these wheels into a more coordinated whole and, of course, we want to make sure we apply plenty of grease.

Thank you, Mr. Chairman.

[The prepared statement of Terry Wilson follows:]

STATEMENT OF

Terry L. Wilson, Director
Center for Math, Science and Environmental Education
Western Kentucky University

BEFORE THE

House Subcommittee on Select Education
on the Proposed
National Environmental Education Act (H.R. 3684)

April 19, 1990

Introduction

In three days we will celebrate the twentieth anniversary of the first Earth Day, held April 22, 1970. For the past two decades the quality of the environment has been publicly recognized as a major determinant of the quality of life in the future. The necessity for the creation of an environmentally educated citizenry has been stated consistently during this time by a wide variety of individuals, organizations and government entities. In his August 1970 Environmental Message to Congress, President Nixon stated that "it is vital that our entire society develop a new understanding and a new awareness of man's relation to his environment." He called for the development and teaching of environmental concepts at every point in the educational process in order to create what he called "environmental literacy" in the United States.

The term "environmental education" means many things to many people, including those who refer to themselves as "environmental educators." The multiplicity of meanings is, at least in part,

an outgrowth of the relative newness of the term, the nature of its origins, and the variance in the goals of its professionals. In fact, defining environmental education, particularly for the benefit of those who reside in one of the more established niches of the academic world, is considered by many to be a continuing dilemma. The recognition that environmental education has evolved from roots in nature study, conservation education, and outdoor education has been addressed in the literature ever since the term environmental education began being used in the late 1960's. The literature does show that although a universally accepted definition does not exist, environmental education has developed a substantive structure and framework. Most environmental educators agree that environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of both the social and technical mechanisms that can help solve those problems, and motivated to work toward their solutions.

A Historical Perspective: The Promises of PL 91-516

The education of human beings to improve the quality of the environment was the overriding goal of the Environmental Education Act of 1970. For the purposes of the act the Congress defined environmental education as "the educational process dealing with man's relationship with his natural and manmade surroundings, and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation,

technology, and urban and rural planning to the total human environment."

More specifically, the act: (1) estabished the Office of Environmental Education within the U.S. Office of Education; (2) provided funds for grants for the development of multidisciplinary and interdisciplinary curricula for levels ranging from preschool to graduate; (3) established an Advisory Council for Environmental Education; and (4) provided for the delivery of technical assistance to states in developing state-wide programs in environmental education.

The Act was authorized for appropriation of $5,000,000 for FY 1971, $15,000,000 for FY 1972, and $25,000,000 for FY 1973. The major portion of these amounts were to be granted to Federal, State, and local entities, and were intended to be given for: (1) the preparation and dissemination of materials and development of programs; (2) preservice and inservice training programs on environmental quality and ecology; (3) community education programs designed especially for adults; (4) planning of outdoor ecological study centers; and (5) the initiation and maintenance of environmental education programs at the elementary and secondary levels.

The Act stressed the interdisciplinary nature of environmental education, noting the interrelationships among concerns of and about the environment, while pointing out the significance of human interactions in improving environmental quality. These principles were even evident in the development and passage of the Act itself, as the report of the House

committee noted: "one task of environmental education should be to put the pieces back together again, to gain a view of the whole, so that relationships among disciplines can be clarified and the consequences of individual acts as they affect the total environment can be recognized."

The Unkept Promise

The Environmental Education Act of 1970 came at a time when a miriad of activities (both public and private) pertaining to the improvement of environmental quality was commencing. During the same year President Nixon had signed into law PL 91-190 (The National Environmental Policy Act), an estimated 25 million Americans turned out on Earth Day to demand a more healthy environment, and the Environmental Protection Agency was created by executive order. The Environmental Education Act was an official endorsement that education also had a role to play in the new environmental movement.

The House of Representatives introduced the Act through the intiative of Representative John Brademas, a Democrat from Indiana. Brademas had intiated a similar piece of legislation in a previous session of Congress, and the hearings held on that bill had featured the likes of Dr. Margaret Mead, the noted anthropologist, who urged that environmental education programs be created in elementary and secondary schools, and that they be tied closely with programs designed for the community. However, the process of passing this law became an excellent example of a "legislative-executive" conflict. The law was an effort of the

Congress, and the U.S. Office of Education objected to the creation of a law that dictated how they should address environmental education. In the view of Sidney Marland, Jr., the Commissioner of that office, the efforts being called for could be incorporated into existing programs of the Department of Health, Education and Welfare. In particular, the executive branch objected to the creation of the Office of Environmental Education within the U.S. Office of Education, that was to administer the grant program. The law was eventually passed however, and President Nixon approved it without comment on October 30, 1970.

During the next three years the law failed to live up to the high expectations that accompanied its passage. Of the $45,000,000 authorized in funding for that period, less that $6,000,000 was actually spent. Some analysts suggest several reasons for this missed opportunity. As mentioned before the law was intitiated by the Congress and not by the Administration. There was already a tension that existed between the two branches of government on several pieces of legislation passed that during that period, particularly regarding Vietnam war spending. Secondly, the Admininstration felt that this type of program should come under the umbrella of the overall environmental effort, and not be "isolated" in the U.S. Office of Education. Also, Federal support for education was not a priority of the Nixon Administration.

This example of a conflict between the legislative and executive branches of the Federal government was made clear

during hearings of the House Select Subcommittee on Education held one year after passage of PL 91-515. The major reasons for calling the hearings were to question why the U.S. Office of Education had failed to (1) create the Office of Environmental Education; and (2) set up the National Advisory Council for Environmental Education; both of which were mandated by the Act itself.

These delays and the failure to take advantage of the grant provisions of Act soon saw a waining of support from various parts of the environmental education community. Even though 1,925 proposals were submitted during the first year of the Act's funding, only 74 were funded. No wonder the enthusiasm that greeted the Act's passage was replaced with dissappointment as the initial implementation of the law proceeded.

The Environmental Education Act of 1970 was eventually extended with amendments in 1974 and 1978, but the rhetoric of its originators was never close to being actualized. Today, the U.S. Office of Environmental Education does not exist, and the only place that environmental education visibly appears in the programs of the current U.S. Department of Education is with the Education Resources Information Center (ERIC), which maintains the Science, Mathematics, and Environmental Education Clearinghouse at The Ohio State University.

This is not to say that environmental education is not alive and well in the United States. A viable diversity of programs exists through the efforts of other Federal agencies, State governments, higher education, public schools, and non-formal

education entities such as nature centers and museums. However, very few of these efforts are a direct result of the passage of PL 91-516.

A Model Program in Environmental Education

Over the same period of time a variety of other approaches to the implementation of environmental education programs have been developed. Many of these have occurred through the leadership and/or assistance of other Federal agencies besides the U.S. Department of Education. Such programs have been facilitated through such agencies as the U.S. Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, and the Soil Conservation Service. Of particular interest was an effort launched through the leadership of the Tennessee Valley Authority (TVA). During the last fourteen years TVA has been the major force behind the creation of a network of university-based centers for environmental education. Currently 16 such centers exist within parts of the seven states in the Tennessee River watershed, having been initiated by contractual agreements with TVA. Such contracts have provided these universities with "seed" money to help establish centers that eventually could become hard-line entities within their respective institutions. As this "network" has developed, TVA has asked each center to operate through four basic functions. These are: (1) teacher training; (2) regional outreach; (3) program development; and (4) research. These functions were originally operationalized at Murray State

University, which was the first university with TVA established a center, and which has served as the "model" for the continuing development of the network.

Although all sixteen of the existing centers in the TVA network have embraced the center concept and are involved in programs that honor the four functions described above, there has no direct attempt by TVA to dictate what the goals of these centers should be. TVA has taken the position that they were assisting in the development of a network of centers, and that as a federal agency mainly involved in resource management, it should not be in the business of dictating educational policy to institutions of higher education that are actively engaged in that endeavor. However, research indicates that though the centers in the network operate independently, the goals and objectives of the center are similar. In addition, the networking concept has enabled the collective group of universities to accomplish much more together than would have been possible individually, given the same amount of resources.

In 1989 alone, the TVA network of centers for environmental education reached over 7600 teachers in workshops, developed and field tested 75 new programs, and provided regional outreach to 176 counties, representing 86 percent of the TVA service area. These efforts impact approximately two-thirds of the students in the Tennessee Valley region, at a current annual cost of only 24 cents per student to TVA. In addition, TVA has demonstrated that a Federal agency can provide an infrastructure that can far outlast short-term systems of grants and contracts. At Western

Kentucky University, for example, the center has developed into a recognizable regional resource, that continues to work with TVA, but also has relationships with other agencies (Federal, State and local), as well a host of non-governmental organizations involved in education about and for the environment.

Implications for the Future

In considering some of developments that have shaped environmental education programs in the past twenty years it must be emphasized that the projects that have become sustainable programs have done so largely because there has been a system created to support them long after any initial support may have faded. Such has been the case of the TVA model, which is currently being promoted nationwide by the Alliance for Environmental Education (AEE), a non-profit organization of organizations that has recognized that networking is a key to the development of environmental education programs that engender to reach a broad base of the population. The Alliance's national networking project is attempting to create environmental education centers at universities and other educational organizations throughout the United States, and is attracting interest from other counties as well.

As the Congress considers the possibility of a new national environmental education act, several points should be considered.

(1) If an office of environmental education is created, it should seek to network with programs that already exist within the Federal structure. In addition, it should attach itself

strongly to networking efforts currently underway through many of the non-governmental organizations involved in AEE's National Network of Environmental Education.

(2) Environmental education and training programs developed under such an act should not be concentrated in a few large institutions. Efforts must be made to recognize the value of a broad-based approach to the development of environmental education programs.

(3) Grants awarded through such an act should be based on a system of matching dollars, so that as a program develops over a period of several years the organization receiving the grant can gradually provide more and more direct support. This will encourage the continuation of such program development efforts long after the funding from this act stops supporting a particular project.

(4) Funding for such an act must be substantial. Environmental education must be seen to be a form of environmental protection. If a small portion of the funds currently being spent on cleaning up our environmental disasters were channelled into a sustainable environmental education program, many of the problems lurking in the future could be avoided. Prevention may ultimately be our only solution, and education is the key to prevention.

(5) The passage of the proposed legislation can provide a visible message to the public that education about and for the environment is indeed of paramount importance. However, the implementation of such an act should honor the work that is

already being done in the field. We need not reinvent the wheel. In the field of environmental education there are a number a well-conceived "wheels" that can become viable parts of a national effort. What we may need are some "axles" to connect these wheels into a more coordinated whole. And don't forget to keep applying the grease.

Chairman OWENS. Thank you.

I want to extend a very special welcome to my hometown resident, Mr. Darryl Roberts from Brooklyn, New York. Mr. Roberts.

Mr. ROBERTS. Thank you, Mr. Chairman. My name is Darryl Roberts and I'm honored to testify before the subcommittee this morning and to share with you my experiences involving environmental education.

I'm a young environmentalist and adventurer. I've learned firsthand the importance of educating everyone to the needs, challenges and dangers that confront our natural environment.

In 1989 I became the first American ever to walk 600 miles across the Arctic Ocean. I was also the youngest person ever to travel across the Arctic Ocean since Mathew Henson's efforts to help discover the North Pole 80 years ago. I'm also the first African-American to ever walk to the North Pole.

My experiences in the Arctic were part of an international ICEWALK expedition sponsored by the Amway Corporation. I was the American representative of that expedition which involved eight explorers from seven different countries.

While all of us shared the challenge of walking to the Pole, we also shared the goal of using the expedition to draw attention to environmental issues facing polar regions and how those issues impact on the rest of our planet. We also shared an understanding that our environmental crisis is a global one. The solutions may be local, but we must all think of ourselves as part of a global community.

I'm fortunate to have been able to explore the environment in ways that few can. But I know that my concern for the environment is shared by many.

My background may not seem typical for the stereotype many of us have of environmentalists. I was born in Harlem, New York City in 1965. I grew up in a single-parent family without many advantages but with many dreams. I grew up dreaming of doing something different, something that would have as real positive and constructive impact on the lives of others.

I kept those dreams alive and they've taken me across the Arctic Ocean in an attempt to inspire other young people to become involved and learn about the environment.

My path from Harlem to the North Pole was not a smooth one. I gave college a try, studied engineering, and even tried to become a salesperson. Not one of those things was right for me, yet I still felt a need to make a difference in this world.

I began to work with students in a program called Urban Adventures which gave city youths a chance to explore nature on the weekends. I then became an Outward Bound instructor, where I learned more about our natural environment.

It was during this time that I set my sights on another goal, the ICEWALK expedition. Walking to the North Pole taught me a lot about nature and the environment. It also taught me that a kid from Harlem can make a difference in the kind of world we live in.

I now spend my time working with students and sharing with them the lessons I've learned. Those students often share with me their concern about the kind of world we live in and their desire to become involved in saving the planet.

By returning to the inner-city, I see the changes and the challenges facing the community. I see how important it is for disadvantaged youths to become environmentally aware. It helps them to look at their own world differently and to start thinking about how they can contribute. They are our future leaders, voters and environmentalists, and they are, like me, hungry to make a real difference.

I've been able to reach many students by going directly to their schools and telling them about my experiences. The new ICEWALK school television series from PBS will reach thousands of students with these same warnings, messages and hopes.

But these efforts are not enough. We need continued leadership to build the strong environmental ethic among young people, we need to guarantee that students have the environmental resources in their schools and communities to fully develop an understanding and appreciation of their natural environment and to instill a commitment to local action.

Partnerships are critical. A 22-member international student expedition accompanied us as we walked to the North Pole. They monitored our progress from our base camp and they conducted scientific experiments to determine the effect of pollution on the Arctic region. As international ambassadors for young people everywhere, they came to understand the critical importance of collaborative efforts.

They found on their expedition that we are the problem and we are the solution. The world can live without us, but we cannot live without the world. These students represent an entire generation of young people who share this curiosity and a desire to get involved.

It is my hope that the National Environmental Education Act will help students everywhere. It is my hope that it will bring more educational resources, like the ICEWALK school television series and study guide, curriculum resources, computer network exchanges and technology resources to students of all ages.

Public television has a long tradition of bringing environmental issues to millions of viewers in thousands of schools each year. I grew up on public television's nature and science programming. As early as the third grade I was thinking about ways to do something for the environment.

I decided then that I would ride my bike to work when I grew up. Little did I know that my early excitement was paving the way for my trek to the North Pole. The critical thing is that I became excited, dreamed of making a contribution, started to see my world differently, and began to take initiative.

Local public television stations working in partnership with local businesses, civic groups and educational environmental organizations are an important link in providing students with information and resources that foster an environmental ethic. If grassroots organizations like these can be encouraged to work together in every community, then students will gain an increased awareness of environmental issues.

One of the greatest challenges in reaching inner-city kids is to get beyond their low self-esteem and to help them recognize that

they have a stake in the future. Children with low self-esteem have little or no feeling for the environment.

I could not have made it to the Arctic on my own. Working in partnership with others, I was able to make the trek from Harlem to the North Pole. It is my hope that students everywhere will have the opportunity to follow their dreams. It is also my hope that they will find inspiration and resources in their own backyard, wherever that might be.

I support the subcommittee's efforts to foster a strong environmental ethic among America's students. I'm confident that partnerships between public and private sector organizations can play a critical role in reaching this goal and I hope that I can continue to teach by example the importance of preserving our natural environment to young people throughout this country.

I also support the National Association of Public Television's testimony on this bill. The Association encourages the subcommittee to consider public television's ability to increase public education and heighten environmental awareness through programming, instructional resources and training materials.

Thank you.

[The prepared statement of Darryl Roberts follows:]

TESTIMONY OF DARRYL ROBERTS
ICEWALK EXPLORER

BEFORE THE HOUSE SELECT SUBCOMMITTEE ON EDUCATION

UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE NATIONAL ENVIRONMENTAL EDUCATION ACT
S. 1076

APRIL 19, 1990

My name is Darryl Roberts. I am honored to testify before the subcommittee, and to share with you my experiences involving environmental education.

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I am fortunate to have been able to explore the environment in ways that few can, but I know that my concern for the environment is shared by many.

My background may not seem typical for the stereotype many of us have of "environmentalists." I was born in Harlem, New York in 1965. I grew up in a single-parent family, without much hope but with many dreams. I grew up dreaming of doing something "different," something that would have a real impact on the lives of others. I kept those dreams alive, and they have taken me across the Arctic in an attempt to inspire other young people to become involved and learn about the environment.

My path from Harlem to the North Pole was not a smooth one. I gave college a try, studied engineering, and even tried to become a salesperson. None of these things was right for me yet I still felt a need to make a difference in this world.

I began to work with students on a program called Urban Adventures, which gives city kids a chance to explore nature on weekends. I then became an Outward Bound instructor, where I learned more about our natural environment. It was during this time that I set my sights on another goal...the ICEWALK expedition.

Walking to the North Pole taught me a lot about nature and the environment. It also taught me that a kid from Harlem can make a difference in the kind of world we live in.

I now spend my time working with students and sharing with them the lessons I have learned. Those students often share with me their concern about the kind of world we live in, and their desire to become involved in saving the planet. By returning to the inner-city I see the changes and the challenges facing the community. I see how important it is for disadvantaged youth to become environmentally aware. It helps them to look at their own world differently and to start thinking about how they can contribute. They are our future leaders, voters, environmentalists, and they are, like me, hungry to make a real difference.

I've been able to reach many students by going directly to their schools and telling them about my experiences. The new ICEWALK school television series from PBS will reach thousands of students with these same warnings, messages and hopes.

But these efforts are not enough. We need <u>continued</u> leadership to build a strong environmental ethic among young people. We need to guarantee that students have the educational resources in their schools and communities to fully develop an understanding and appreciation of their natural environment, and to instill a commitment to local action.

Partnerships are critical. A 22-member international student expedition team accompanied us to the ICEWALK base camp. They conducted scientific experiments to determine the effect of pollution on the Polar Region. As international ambassadors for young people everywhere, they came to understand the critical importance of collaborative efforts. They found on their expedition that we are the problem. The world can live without us but we cannot live without the world. These students represent an entire generation of young people who share this curiosity and a desire to get involved.

It is my hope that the National Environmental Education Act will help students everywhere. It is my hope that it will bring more educational resources like the ICEWALK school television series and study guide, curriculum resources, computer network exchanges, and technology resources, to students of all ages.

Public television has a long tradition of bringing environmental issues to millions of viewers and thousands of schools each year. I grew up on public television's nature and science programming. As early as the third grade I was thinking about ways to do something for the environment. I decided then that I would ride my bike to work when I grew up. Little did I know that my early excitement was paving the way for my trek to the Arctic. The critical thing is that I became excited, dreamed of making a contribution, and started to see my world differently.

Local public television stations, working in partnership with local businesses, civic groups, educational and environmental organizations, are an important link in providing students with information and resources that foster an environmental ethic. If grassroots organizations like these can be encouraged to work together in every community, then students will gain an increased awareness of environmental issues.

One of the greatest challenges in reaching inner-city kids is to get beyond their low self-esteem and to help them recognize that they have a stake in the future. Children with low self-esteem have little or no feeling for the environment.

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I support the subcommittee's efforts to foster a strong environmental ethic among the America's students. I'm confident that partnerships between public and private sector organizations can play a critical role in reaching this goal. And, I hope that I can continue to teach, by example, the importance of preserving our natural environment, to young people throughout this country.

I also support the National Association of Public Television's testimony on this bill. The Association encourages the subcommittee to consider public television's ability to increase public education and heighten environmental awareness through programming, instructional resources and training materials.

Thank you.

Chairman OWENS. Thank you, Mr. Roberts.

Mr. Steve Kussmann, Chairman of the Alliance for Environmental Education.

Mr. KUSSMANN. Thank you, Mr. Chairman. It's a privilege to be here.

My name is Steve Kussmann and I'm Chairman of the Alliance for Environmental Education, the Nation's largest environmental education organization. I'm also Director of Communications Programs for the American Gas Association that is submitting written testimony to this subcommittee. Today I appear on behalf of the Alliance.

It is a privilege to appear before this subcommittee on a matter of great importance to the Nation and the world. The Alliance commends your leadership in bringing the National Environmental Education Act before the U.S. House of Representatives. The Federal Government has a critical role to play in this area and we are delighted to see the bipartisan support that H.R. 3684 has attracted.

The time has come for our Nation to realize that environmental quality and economic progress will only be achieved when our citizens at all levels of society develop an environmental ethic. Education is the key to the development of that ethic and, therefore, sustainable development.

Since its formation in 1972, the Alliance has sponsored research, conferences and other initiatives to identify and implement a national environmental education strategy. Over time we have concluded that environmental education is a life-long process that continues on the job and in the home well after formal schooling is completed.

We have learned that this education is best conducted at the grassroots level with support and leadership from the state and Federal levels. We also have learned that while there is an abundance of high-quality usable environmental education materials and programs available in the Nation, as have been mentioned here, the networking mechanisms and partnerships needed to link these programs with people did not exist.

This finding led the Alliance to consider and adopt in 1986 a partnership project now known as the Network for Environmental Education as its major undertaking. This network was modeled after the highly successful Environmental Education Network established by the Tennessee Valley Authority that you heard of a few minutes ago.

Through the Alliance Network interactive electronically linked environmental education centers based at colleges, universities, and other institutions serve designated geographic areas with programs and services that include teacher and professional training, community outreach, program adaptation and development, and research.

To date, 55 centers are participating in the network and we expect 100 to be in operation by the end of the year. Among these are the 15 historically black colleges and universities and minority institutions which have joined the network.

We believe the network and the partnership it embodies should serve as a role model for your legislation. Issues have evolved since

the original Environmental Education Act was enacted in 1970 and times have changed since its repeal. The relative absence of the Federal sector from environmental education over the past decade has been met with a resurgence of interest from other organizations, such as those represented by the Alliance.

However, our Nation needs strong Federal participation and leadership in environmental education and we are pleased to see momentum in this direction. A leader among the Federal agencies is the Environmental Protection Agency that has come to realize that its success depends as much on pollution prevention and environmental education as it does on regulation and enforcement.

But no sector, not even the Federal Government, can handle this job alone. EPA recognizes this fact and is already building networks and partnerships to meet its environmental education needs.

For this and other reasons, the Alliance supports the formation of an Office of Environmental Education within EPA. We believe that to achieve appropriate internal as well as external goals, the office should be housed in the Office of the Administrator.

We support the designation of EPA as the lead agency within the Federal sector. There are many environmentally-minded and educational-oriented agencies in the Federal Government, and we would like to see an Office of Environmental Education in each of them. But only EPA has as its sole mandate the protection of our environment. That fact, plus the Agency's demonstrated interest in environmental education, make EPA the clear choice for Federal leadership in this critical area.

We also support the need for an advisory council to the Administrator on environmental education. Such a council already exists at EPA through the Agency's National Advisory Council on Environmental Technology Transfer mentioned by Mr. Reilly. That Council has a committee on environmental education and training. This committee has been meeting and discussing important environmental education issues for more than a year and already has developed a set of comprehensive recommendations for the 161-Administrator.

To bring your legislation into the Decade of the Environment, the Alliance recommends that the environmental education and training section of H.R. 3684 be revised to include language that supports environmental education networks and partnerships, such as the Network for Environmental Education, and others that exist.

Today environmental education leaders recognize that a decentralized network of environmental education centers is the most effective mechanism to deliver education and training programs. Your Act should build on the progress made since 1970 and look to the partnerships embodied in the network concept to meet this need.

Finally, the Alliance finds the funding mechanism in H.R. 3684 innovative and the funding level appropriate, at least in the short-term. Fundamental, though, to any funding strategy is reliability. Political change, budgetary crunch or other forces, may mean that funding approved one year disappears the next, as was the case with the 1970 Act.

The Alliance believes it imperative that the committee find a strategy that will ensure long-term and consistent funding for the Act so that the long-term process of environmental education does not get side-tracked by annual Federal fiscal problems. We propose that you consider establishing a public/private foundation for environmental education, or a similar mechanism that would meet this need.

The Alliance stands ready to work closely with you and your staff to complete the crafting of an effective Environmental Education Act that will serve the 1990s and beyond. We are pleased with the actions you are taking and we thank you for them.

Thank you.

[The prepared statement of Steven Kussmann follows:]

TESTIMONY OF
STEVEN KUSSMANN
CHAIRMAN, ALLIANCE FOR ENVIRONMENTAL EDUCATION

BEFORE THE
SUBCOMMITTEE ON SELECT EDUCATION
UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE NATIONAL ENVIRONMENTAL EDUCATION ACT
H.R. 3684

APRIL 19, 1990

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My name is Steven Kussmann and I am Chairman, Alliance for Environmental Education. The Alliance is a 501-C(3) organization and is the nation's largest environmental education organization. Established in 1972, the Alliance serves as an advocate for a quality environment through education and training and advances communications, cooperation and exchange among its member organizations and key audiences.

Currently the Alliance is comprised of more than 100 member organizations, which include environmental, educational, government, business, labor, health, civic, professional and public interest groups. These organizations collectively represent more than 20 million people.

I also am Director, Communications Programs for the American Gas Association, a national trade association representing natural gas distribution and transmission companies.

It is a privilege to appear before this committee and to offer my perspective on the National Environmental Education Act and your efforts to renew the federal government's commitment to environmental education.

Today I speak for the Alliance for Environmental Education. I will begin by giving general views on environmental education and then I will address specific points related to H.R. 3684, the National Environmental Education Act.

Last September, it was my honor to co-chair a two-day public hearing on education, training and sustainable development. The purpose of the hearing was to examine education strategies that would allow our nation to achieve its twin goals of environmental quality and economic progress. More than 40 expert witnesses representing a broad spectrum from educational and training institutions, public interest organizations, government, business, the media, and professional societies addressed the hearing, which was entitled "Planet at Risk: Charting an Environmental Ethic."

Most appropriately, the hearing was kicked off with the testimony of 13-year-old Cathy Bell from Closter, New Jersey. As a fifth-grade student from the Tenakill School in Closter, Cathy was a co-founder of the student environmental education organization "Kids Against Pollution." That group now has more than 500 chapters in 47 states and three countries.

Cathy's message to us was clear. She said that a clean

environment is both the right and the responsibility of all of us, and her message set the tone for the entire hearing. Cathy said that members of "Kids Against Pollution" want a constitutional amendment guaranteeing clean air and land.

The hearings underscored a number of other important points that are relevant to your deliberations. We were reminded that, in the formal education sector, environmental education should be infused across the curriculum; that it stimulates an interest in math, science, economics, the arts and other subjects, and that by making education relevant it motivates young people to stay in school.

We were told that networking and establishing partnerships across both traditional and non-traditional boundaries were the key to empowering the process of environmental learning.

We were enlightened about the important role minorities must and will play in solving environmental problems, as well as the need to localize environmental education initiatives.

We reviewed the concept of learning as a life-long process that continues in the workplace, at home, through the media and in places of worship long after formal schooling is completed.

We discussed the impact of television and movies on environmental behavior of our citizens, and we were exposed to new educational technologies that greatly enhance the transfer and networking of information and data.

We became aware of the tremendous amount of information and

quality environmental education and training resources that already exist. These materials, courses and programs have been created in universities, by public-interest groups and environmental organizations, by businesses and industries and by state, local and federal government agencies. The very best of these incorporate excellent strategies, use interesting materials that span many subject areas, provide hands-on, real life application of the knowledge acquired, emphasize problem solving, and train teachers to use the resources and follow up with continuing training and support. Indeed, entire curricula have been developed and implemented to address many of the current environmental issues and problems facing our nation.

The "Planet at Risk" hearing also made it abundantly clear that sustainable development -- economic progress with environmental quality -- can only be achieved if our society changes its values and attitudes toward the environment and development.

How else but through education at home, in school, on television, in the workplace, and as part of religious training are these new values and attitudes going to be developed? How else but through a process of life-long learning can the environmental ethic on which sustainable development depends be established? There is no better way.

That is why it is so important that institutions around our nation -- government institutions, educational institutions,

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environmental institutions, business institutions -- all of the institutions that establish and guide environmental and economic policy, become advocates for environmental education and training.

That is why the Alliance for Environmental Education believes it is critically important that our nation and other nations of the world develop environmental education networks and partnerships that link the grass roots with state, regional, national and international effots.

Indeed, the Alliance maintains that the development of such a network is the cornerstone of all future environmental education initiatives.

This network will lead our efforts to infuse environmental learning strategies across the educational system, including both formal education in our schools and informal education that takes place at work and in the home.

It will be used to improve teacher training, curriculum development, public participation and environmental education research. It will provide conduits through which electronic technologies and other communications and program innovations could be tested.

This environmental education network also reflects the new realities that makes its chance for success significant. The research and experiences that support the success of networks are extensive.

Let us examine this optimistic climate and observe how it can help us chart a course for success.

To begin, public concern for the environment and the health effects of pollution has never been greater. That awareness is poised to be transformed into meaningful political action at all levels of government.

Consumer response to pollution concerns is causing more and more businesses to reassess their attitudes toward the environment. Industry and consumers can no longer afford the mega-billion dollar clean up expenses we face annually to restore the air, land and water that sustain us.

These forces are propelling our nation toward the goal of sustainable development. They are the forces that have led this distinguished body to hold hearings on a new environmental education initiative. It is most appropriate that you have in your hands today the opportunity to stem the tide of pollution and environmental degradation by empowering the forces of environmental education and training.

As we move forward toward the goal of sustainable development, we must harness the resources and imagination of the federal, state and local governments, large and small businesses, educational institutions, interest groups and individuals to change the way our society treats the environment.

We must broaden our understanding of the environment by

expanding the definition beyond the traditional "natural environment" to encompass interaction between nature and society.

We must through education establish a national environmental ethic.

Now let me tell you something about the Alliance for Environmental Education and the Network for Environmental Education that we are developing.

The Alliance is a diverse organization, and our members often fall on opposite sides of an issue. But we all share a common purpose that is stronger than our differences. We all are advocates for environmental education. We support the balanced and fair examination of environmental issues, and believe that we all benefit when the public is exposed to various points of view.

This approach supports our belief that education leads to cooperation and understanding, to progress on environmental issues and to the development of an environmental ethic.

Since its formation, the Alliance has fostered this philosophy by sponsoring research, conferences and other initiatives to identify and implement a national environmental education strategy.

The research programs and analysis conducted by the Alliance have taken us down many roads, but over time we have learned that environmental education is best conducted at the

grass roots level.

These *local* efforts need state and regional support and cooperation, and *national* leadership, coordination and communications are essential to the success of the process.

Determining how to effectively combine these elements was not easy for the Alliance, but we did discover the answer. It was brought into focus during the first National Congress for Environmental Education held in Burlington, Vermont in 1983.

A major finding of the conference was that "A network for the promotion of environmental education, training, research and communications, which involves the various groups concerned with the environment and development, should be established."

This finding led the Alliance to consider and adopt in 1986 a project now known as the Network for Environmental Education as its major undertaking for the next decade.

This network was modeled after a successful environmental education network established in seven southeastern states by the Tennessee Valley Authority. For 10 years, TVA centers for environmental education have operated on the campuses of colleges and universities, linked with similar centers on other campuses. Through this network, they were supporting one another with research, educational programs, communications and ideas. The model captured the imagination of the Alliance, but we wondered if sufficient grass roots support existed to expand it nationally.

To find out, we took the network concept around the country through a series of five regional meetings. At those meetings the concept and model were reviewed and discussed by more than 400 individuals from industry, education, environmental groups and government.

The result was that a common chord had been found among all the constituents. Support for the network was overwhelming. We learned what changes had to be made in the model to fit the needs of our nation, and the idea was refined.

The process of implementation is under way. The network is becoming a national and international system of environmental education and training centers based at colleges, universities and other institutions.

To date, 55 such centers are in existence and linked interactively through the Network. By the end 1990, more than 100 centers will be in operation.

As a part of the Network, each center serves a designated geographic area with programs and services that include teacher and professional training, community outreach, program adaptation and development, and environmental education research. Each center is advised by a board comprised of members of the community it serves.

Centers are supported regionally by one of six councils for environmental education. Nationally they are supported by the Alliance and its partners in the program.

The centers are being linked through conferences, seminars, and various communications technologies including EcoNet, an environmental computer network.

We are looking for others to join our efforts, and we are open to new approaches that can be employed through the Network to educate and train our citizens to develop the values and skills needed to deal with the new generation of environmental issues, such as global warming, that confront us.

Among the ways we see the network helping to address these issues is through risk reduction research and the transfer of that information to individuals and organizations that most need it.

We see our centers combining resources to pool information on strategies to achieve important communications on economy-of-scale benefits.

We see the centers used to involve state and local officials and other key constituents in the process of resolving environmental problems.

We see them educating the public about the nature of pollution and the steps individuals can take to prevent pollution.

We see the centers infusing environmental studies into business and engineering curricula, preparing tomorrow's leaders to deal with environmental issues.

All of these actions are based on partnerships, partnerships that involve national, state and local participation, partnerships that extend our communications and help us avoid re-inventing the wheel. Such partnerships are fundamental to any and all efforts to carry out effective environmental education programs.

The federal government has a critical role to play in this entire effort. We believe that the passage of H.R.3684, the National Environmental Education Act, is desperately needed, and we are delighted to see you take the lead in addressing this need.

We also are delighted to see the bi-partisan support this legislation has attracted. There should be no party politics in this critical national initiative.

I should note that the Alliance played a role in authoring the section of the "Blueprint for the Environment" that called for a new environmental education act. We are pleased that this committee acknowledges the importance of environmental education as an integral part of the solution to our nation's critical educational and environmental problems.

We would hope that the Act of 1990 would differ considerably from the one that was passed in 1970, reflecting the changing times. Issues have evolved. The relative absence of the federal sector from environmental education over the past decade has been met with a resurgence of interest from other

organizations. However, our nation needs strong federal participation and leadership in environmental education.

The Environmental Protection Agency has come to realize that its success depends as much on environmental protection and understanding as it does on regulation and enforcement. But no sector, not even the federal government, can handle this job alone. The Environmental Protection Agency recognizes this fact and is already building networks and partnerships to utilize existing resources and to develop and disseminate environmental education and training program materials.

Specifically, the Alliance supports the formation of an Office of Environmental Education within EPA, housed within the Office of the Administrator. Today no other department or agency is as appropriate as the EPA to provide leadership for this effort.

While there are many environmentally minded organizations in the federal government, only the EPA has as its sole mandated purpose the protection of our environment. With its intensified focus on pollution prevention and risk reduction, the EPA already has acknowledged the critical importance of education and training in carrying out its mission.

The agency recognizes that a well-educated and informed public and a highly trained workforce are critical to the success of its efforts to extend beyond its traditional boundaries of command and control and to look to pollution

prevention as its primary goal.

The Alliance has been particularly pleased to see this effort exemplified through EPA's Office of Cooperative Environmental Management, where the issues of technology transfer and training and education have melded together to reinforce the importance of education and training to the agency's mission.

We also support the bill's provision for an advisory council to the Administrator on environment education. We would, however, point out that such an advisory council already exists at EPA. Indeed, EPA's National Advisory Council on Environmental Technology Transfer (NACETT), Committee on Environmental Education and Training has been meeting and discussing important environmental education issues for more than a year.

It was the NACETT Committee on Education and Training that co-sponsored the "Planet at Risk" hearing with the Alliance. Utilization of the NACETT Committee on Environmental Education and Training, as the federal government's advisory council on environmental education, would allow this transition process to move along much more quickly, taking advantage of the good work already accomplished.

EPA's recognition of the importance of technology transfer in accomplishing its mission has enabled the NACETT committee to expand the education and training mandate for EPA well beyond

the tradition scope of environmental education.

It also is worth noting that the NACETT Committee on Environmental Education and Training already has recommended that the Administrator redefine the agency's mission to encompass a broad environmental education and training mandate, emphasizing the importance of national and international networks, and that he establish an Office of Environmental Education and Training within EPA's Office of the Administrator.

The functions of this office would include the development of a national environmental education and training policy and associated short- and long-term implementation plans, as well as an annual report on the status of national environmental literacy and behavior.

The Alliance strongly supports the federal coordination provisions of the proposed Act. We believe that EPA's leadership should be extended to oversee this coordination and that if possible, the Department of Education's Federal Interagency Committee on Education (FICE) be utilized to assist in this effort. We do, however, have some concerns that FICE is not adequately supported by the Department of Education. Further we are concerned that the Department's focus on formal education may preclude coordination of essential non-formal educational activity.

The Alliance believes that the focus of the the Environmental Education and Training Program should include

support for the Network for Environmental Education being developed by the Alliance. Indeed the language of the section should be amended to read: "The functions and activities of the program shall be the development of public/private partnerships and environmental education networks to efficiently and effectively involve educators, environmentalists, business, labor and government in a coordinated effort to develop and deliver environmental education and training programs."

As I noted earlier, environmental education leaders year ago recognized that a decentralized network of environmental education centers is a much more effective mechanism to deliver services. Such a network can capitalize on existing resources and provide direct access to the grass roots, the level on which education must take place in order to be relevant and effective.

If your act builds upon the progress that already has been made and capitalizes on such partnerships as our Network for Environmental Education, you will enable the federal sector to play its leadership role more effectively.

Another important resource that should be noted in the legislation is the Environmental Education Clearinghouse at Ohio State University. This Educational Resources Information Clearinghouse (ERIC) for Science, Mathematics and Environmental Education has established an effective method of disseminating its information through the nation's libraries, via print and electronic media.

In your deliberations, you should recognize that the public schools are not the sole focus of environmental education. In fact, the major institutional support for the development of environmental education materials in recent years has been through 501-C(3) organizations, business and industry groups and government agencies. Many inspired school teachers and a number of enlightened schools also have played an important role.

The public schools will always be an important focus for delivery of environmental education; nevertheless, we must recognize that the nation's educational system is much larger than its system of formal schooling. Adult education also is very important. Town officials, developers, people in business and other decision makers must understand evolving environmental problems and what they can do to address them. Reaching these other populations is essential if we truly hope to solve environmental problems. Your Act should recognize these diverse delivery systems and target audiences.

We recommend also that the internship program contained in this legislation be broadened so that it is not restricted to summer. Many colleges now encourage their students to enter internships as an alternative to a regular semester on campus during the school year. Additionally, it is important to recognize that there are many people who would benefit from internships in addition to college students. Teachers, for example, might enter an internship as part of a sabbatical

leave. We also recommend that the maximum length of an internship be expanded from four to six months, at least the length of an academic semester.

The Alliance commends your awards program. It is good to acknowledge significant accomplishments in environmental education. However, you might wish to consider adding awards for leadership in government, public interest organizations and business and industry to those already designated in the legislation.

The funding mechanism proposed by the legislation is particularly innovative and indeed the Alliance strongly supports the concept of polluters paying for environmental education.

Fundamental, though, to any funding strategy is reliability. Political change, budgetary crunch or other forces may mean that funding approved one year disappears the next, as was the case with the Environmental Education Act of 1970.

The Alliance believes it is imperative that the committee find a strategy that will ensure long-term and consistent funding for the Act so that the long-term process of environmental education does not get side-tracked at the federal sector by annual fiscal problems.

We believe that the current funding level is adequate for the job that needs to be done by the federal sector. As with every federal program, much more could be spent, but we believe

that the strategy provides adequate funds for the programs established by the Act.

We do however, propose that you go one step further and establish a foundation for environmental education. This foundation would receive and disburse the funds provided under the funding section as well as funds raised from the private sector. In this way you will establish a public/private partnership and a stable footing for environmental education that will truly be able to address the long-term needs of environmental education in the United States.

We believe that, with the kinds of modifications we have noted and a fundamental shift in the philosophy of the legislation to encourage the development of networks and partnerships between the federal sector and the broad-based environmental education community that exists in our nation, the National Environmental Education Act of 1990 will not only win broad support, but that it will make a significant difference to the quality of education and environmental protection in this nation.

The Alliance for Environmental Education strongly supports your efforts to pass the National Environmental Education Act. We are ready to work closely with you and your staff to complete the crafting and enactment of an effective bill.

Thank you.

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Chairman OWENS. Thank you.

Dr. Kathleen Blanchard, Vice President of Research and Education, Quebec-Labrador Foundation.

Dr. BLANCHARD. Thank you, Mr. Chairman and members of the subcommittee.

I'd like to begin with two scenarios. April on the frozen Yukon Delta of Alaska. It's the Yup'ik Eskimo village of Newtok, population 300, and I am in the home of John and Lewis Williams whose names have been changed. Louise is pouring me a cup of coffee from her Mr. Coffee machine and John is seated in his chair leaned against a chest freezer which is full of cackling Canada geese, black brant, emperors and white frenegeese that he shot the previous spring.

He stares out the window and remarks, "It's a beautiful day. The geese will soon be back." Then he invites me to go and sit on his Chesterfield with his family where mounted on the wall behind us are three semi-automatic shotguns. John clicks on a huge color television console and together we watch Tom Brokaw's Nightly News.

Now, 4,000 miles to the east we're on the remote North Shore of the Gulf of St. Lawrence in Canada. I'm in the village of Harrington Harbour, population 350. I'm walking down toward the community wharf in an incredibly thick fog. In the distance are the periodic sounds of shotgun blasts followed by the crank of an engine and the roar of an outboard powered boat.

I'm greeted by a friend of mine, a fisherman named Bill Thompson, whose name has been changed, and he invites me into a damp, dark shed where his 81 year old father is cleaning 18 murres and two razorbills which he shot from his boat that morning in the fog. He claims they are non-breeding birds that were passing on down to Labrador. But I can't help but observe the brood patch on many of these birds which suggests that they might be breeding birds from the nearby bird sanctuary.

We have a lively discussion and Bill turns to me and says, "Would you like some of these skins for teaching purposes?"

Well, what do these two scenarios have in common? First, they describe activities that are prohibited by the Migratory Bird Treaty between the U.S. and Canada. Second, because both groups of birds that are described were declining rapidly at the time the events took place. Third, because both individuals described have since cut back their so-called illegal take for the benefit of restoring wildlife. Their actions are testimony of courage and will and yet they believe that their actions of taking birds for food are more valuable and fundamental than obeying wildlife laws.

Their awareness and actions came as a result of environmental education, not regulation. Education that emphasized socio-cultural factors and the importance of local participation in the management process.

I commend the subcommittee members for your important initiative in environmental education and thank you for inviting me to testify on H.R. 3684. Implicit in this legislation is the view that education is an effective complement to regulation. The bill embodies strategies that go beyond engendering public awareness to

motivating and empowering public action. This is important because awareness alone will not change people's behavior.

Now, I've been asked to provide a bit of an international perspective. I'm an officer of the Quebec-Labrador Foundation, a not-for-profit organization incorporated in both Canada and the United States with a goal of conserving the natural resources and cultural heritage of rural New England, eastern Quebec and the Atlantic Provinces. Before assuming the office of Prime Minister of Canada, the Honorable Brian Mulroney was a member of our Canadian Board of Directors.

I'm a U.S. citizen. My father is from Newfoundland and my grandfather hunted seals. For the past 12 years I've worked with fishermen of remote villages in the Gulf of St. Lawrence who illegally hunt seabirds for the sake of food, tradition or little else to do. That's why I want to tell you just a little bit about my story, because we think that we are making a difference.

We began our project in 1978 when populations declined as much as 84 percent for razorbill, 76 percent for puffin and when 70 percent of families were engaged in illegal harvest. We introduced an education program that stressed the importance of socio-cultural patterns and local participation. Community-based youth programs and leadership training were reinforced by school activities, involvement of group leaders, field trips and media events.

The result by 1988 was a dramatic increase in the population levels for most species and statistically significant improvements in local knowledge, attitudes and hunting behavior. The average number of birds harvested by families dropped from 44 to 24, while the basic norm that it's okay to hunt an occasional meal of birds remained the same.

Our experience shows that environmental education is an effective complement to laws and enforcement for changing people's behavior, that signs and fines must be balanced with hearts and minds if what we're trying to achieve is to be durable and sincere.

We've learned that the following are key points to effective environmental education.

Number one, long-term commitment. Education is not a quick-fix approach to solving problems in the environment, but a vital preventative component of a long-term plan. Make your commitment long-term; don't leave hanging the already overworked, underbudgeted educators by sponsoring programs that last merely a year or two.

Number two, leadership development. Teach management and communication skills to environmental educators, help them develop long-range plans. More importantly, develop leaders from within all sectors of society, not just education and environment. Make leadership training your highest priority; it's our greatest need in environmental education.

Number three, socio-cultural considerations. Don't waste time needlessly on resources and in producing new materials. Instead, work with people. Understand socio-cultural factors, patterns of communication, group norms and personal ethics. These are what influence people's behavior. Build this knowledge into strategic plans that emphasize citizen involvement.

Just one example. In your bill, for example, your awards program belongs on the school and community level, not just on the regional level. Weave programs into the web of society such that citizens view themselves as agents for positive change. Do this and your program will be durable and effective.

Finally, conduct an evaluation so that you might later prove that the process works.

My colleagues in the Canadian Department of Environment anxiously await news regarding this bill. Last fall they drafted a comprehensive environmental agenda in which education is one component. Recognizing that education is a provincial matter, they hope to develop a cooperative environmental education strategy. Presently the draft environmental agenda is undergoing public review.

I urge you to support H.R. 3684 now and to see that it passes soon. Show the world on this Earth Day that the United States is committed to durable and effective environmental education that will make a difference.

Mr. Chairman, for the record, I wish to indicate that the North American Association for Environmental Education is submitting written testimony on this bill as well.

Thank you very much.

[The prepared statement of Dr. Kathleen A. Blanchard follows:]

TESTIMONY ON H.R. 3684

THE NATIONAL ENVIRONMENTAL EDUCATION ACT

Statement for the record

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April 19, 1990

April on the frozen Yukon-Kuskokwim Delta of Alaska. It is the Yup'ik Eskimo village of Newtok, population about 300, and I am visiting the home of John and Louise Williams (whose names have been changed). Louise pours me a cup of coffee from her Mr. Coffee machine then attends to her four children seated cross-legged on the floor eating seal meat off brown wrapping paper. John leans back in his chair against a chest freezer which he says is full of cackling Canada geese, white-fronts, black brant and emperors that he shot last spring. He gazes out the window and remarks, "It's a beautiful day. The geese will soon be back." Then he invites me to sit with his wife and children on the Chesterfield where, mounted on the wall behind it, there are three semi-automatic shotguns. John clicks on the huge color television console and together we watch Tom Brokaw's Nightly News.

July on the remote North Shore of the Gulf of St. Lawrence. It is the fishing village of Harrington Harbour, population 350, and I am walking toward the community wharf in very thick fog. In the distance are the periodic sounds of shotgun blasts followed by the crank of an engine and the surge of an outboard-powered boat. Bill Thompson (name changed), a fisherman, greets me and invites me into a dark, damp shed where his 81 year old father is cleaning 19 common murres and two razorbills which he has just shot from his boat. He claims they are the "passing birds" that migrate through to Labrador and he plans to take them home for food. I examine the abdomens of several birds and find

the familiar brood patch which suggests they may be breeding birds from the nearby bird sanctuary. Bill listens carefully to our conversation and utters, "Would you like some of the skins for teaching purposes?"

What do these two scenarios have in common? First, they describe activities that are prohibitive under the Migratory Bird Treaty between the U.S. and Canada. Second, populations of both groups of birds were declining rapidly at the time the events took place. Third, the individuals described considered their actions - that of taking birds for food - as more valuable and fundamental than obeying the law.

Yet in light of a growing awareness of why their bird populations were declining, John and Bill have since cut back their so-called illegal take for the benefit of restoring wildlife. Their actions are testimonies of courage and will.

This awareness came more as a result of environmental education than of regulation. John and Bill's actions were motivated by education programs that emphasized socio-cultural factors and the importance of local participation in the management process.

I commend the Subcommittee members for your important initiative in environmental education and thank you for inviting me to testify on H.R. 3684, The National Environmental Education Act. Implicit in this legislation is the view that education is an effective complement to regulation. The bill embodies

strategies that go beyond engendering public awareness to motivating and empowering public action.

I am an Officer of the Quebec-Labrador Foundation (QLF), a not-for-profit organization incorporated in both Canada and the United States with the goal of conserving the natural resources and cultural heritage of rural New England, eastern Quebec and the Atlantic Provinces. A range of education, research and policy activities are administered through its division known as the Atlantic Center for the Environment; they are implemented by a staff of interns, associates and volunteers from Canadian and U.S. universities, plus exchange students from abroad. Before assuming the Office of Prime Minister of Canada, the Honorable Brian Mulroney was a member of QLF's Canadian Board of Directors.

I am a U.S. citizen, my father was a Newfoundlander and my grandfather hunted seals. For the past 12 years I have worked with fishermen of remote villages in the Gulf of St. Lawrence who illegally hunt seabirds for the sake of food, tradition or little else to do.

We began our project in 1978 when the populations of seabirds had declined as much as 84 percent for razorbill and 76 percent for Atlantic puffin, and when 70 percent of families were engaged in illegal harvest. We introduced an education program that stressed the importance of socio-cultural patterns and local participation. Community-based youth programs and leadership training were reinforced by school activities, involvement of group leaders, field trips and media events. The result by 1988

was a dramatic increase in the population levels for most species and statistically significant improvements in local knowledge, attitudes and hunting behavior. The average number of birds harvested per family dropped from 44 to 24, while the basic norm - that it's okay to hunt seabirds for an occasional meal - remained the same.

Our experience shows that environmental education is an efficient and cost-effective complement to laws and enforcement for changing people's behavior: that signs and fines must be balanced with hearts and minds if what we are trying to achieve is to be durable and sincere.

We have learned that the following are key points to effective environmental education:

1) Long-Term Commitment - Education is not a quick-fix approach to solving problems in the environment, but a vital component of a long-term plan to protect, restore and maintain a healthy environment.

2) Leadership Development - One of the greatest needs for the 1990s is the development of leadership among a citizenry that possesses the knowledge, skills and motivation to act in ways beneficial toward the environment and humankind. Leadership training should be aimed at individuals in all sectors of society, not just professional educators.

3) Socio-Cultural Considerations - The provision of information is not sufficient to producing change in citizens' behavior toward the environment. Of vital importance is the attention to socio-cultural patterns, group norms, personal ethics and patterns of communication that influence people's behavior. In order to be effective and durable, environmental education should be woven into the web of society and culture such that people view themselves as the agents for positive change.

Various elements of this Bill - internships, professional training, grants and awards - work well in the education process. An evaluation component should be added so that you may later prove that the process works.

My colleagues in the Canada Department of Environment anxiously await news regarding this Bill. I urge you to pass it soon. Show our own nation's leadership this Earth Day with a commitment to durable and effective environmental education that is designed to make a difference!

Chairman OWENS. Thank you. I want to thank all the panelists for your very enlightening testimony, in some cases pointing the way to the future in terms of recommendations that you have made.

Let me begin with a question for all of you which I asked the Administrator. I'll confess that when I first looked at this bill I had a tendency to want to put it aside because it is such a tiny effort in a situation which requires so much more. I saw it as being insignificant and maybe even counterproductive because by asking for so little we may be saying that it's not that significant, it's not that important.

But I'm convinced that it's better to start from a small vantage point and improve to the point where it's significant, and where the educational effort is big enough to have some kind of real impact.

At the Federal level I think we ought to think in these terms. Let us leave aside the political considerations, the long history of this bill and this program, and the fact that it's been so neglected here in Washington. Let's put that aside. What percentage of the funds would you be spending on education if you really wanted to mount an effective effort to save the environment?

We have about a $5 billion budget for the Environmental Protection Agency. What percentage should go toward education if you didn't have the political constraints and if people had faith in education? As John Denver said, everybody believes in the ambulance down in the valley; they don't want to build a fence—they don't see the need to build the fence around the cliff.

Yes, Mr. Kussmann.

Mr. KUSSMANN. Well, I think if you begin with the observation that if you had been educating all along, perhaps you wouldn't need an agency, the Environmental Protection Agency, with an enforcement budget of $5.6 billion.

It's a difficult question to answer because it's like pouring water into a sieve. It's not that you lose the water, it's just that you never fill the sieve. That's really the issue behind environmental education. We are pouring water through a sieve in terms of the pollution and the other kind of environmental problems that we have and we never take time, because it's not full, to look at the educational agenda.

I think there's also a couple of points at EPA that you should take into account. EPA has now internally requested that two percent of its budget be set aside for pollution prevention. Most of the budget, as you know, is earmarked for specific expenditures. But they're doing a two percent set-aside for pollution prevention.

I think that the Agency, if it looks at pollution prevention seriously, and I'm trusting that it is doing that, will see environmental education embodied in those two words. How are you going to prevent pollution unless you conduct an education and training activity that advises people on how they can do just that?

I think also the legislation that has gone through the House to elevate the Agency to a department has in it specific language mandating an Office of Pollution Prevention. I think it's unique that that legislation did not incorporate any language about environmental education in that discussion.

I think often we are arguing at cross-purposes on this. There is much environmental education currently going on at environmental EPA and this has gone on long before this legislation was promoted.

Administrator Reilly mentioned the Office of Cooperative Environmental Management that runs the NACETT, the National Advisory Council. They have been supporting environmental education simply because they are looking at the critical issue of transferring technology, of the training and education that needs to take place to do that in order to clean up the environment.

So the issues I think are very well entwined. $15 million, as far as we're concerned, is a start. If you look at the plethora of opportunity that exists only in the Federal sector, not even considering the massive amount of effort that's going on from small school districts through national organizations such as those represented here today, then you can see that really the essence of this legislation is to show a Federal commitment in the leadership and to begin a process within the government that will formalize environmental education.

You know, the comment made about President Bush's initiative in being both the education and the environment President, indeed, he probably should be the environment education President. In accomplishing both goals it really is in reality that process that will bring those two issues together.

So I think that the amount of money is not as important as what you have demonstrated today, Mr. Chairman, and that's the leadership that this committee and that the House and that the Senate and the EPA is showing in this matter, and that is what we commend you to do.

Just don't let this thing become a political football. Move this thing forward; give it some sustenance and give it a chance to be a long-term program which is, I think, the more important goal right now.

Chairman OWENS. Yes.

Dr. BLANCHARD. Let me give the example from a management of bird populations, the scenarios that I described.

If we're going to effectively manage bird populations, we look at a four-part plan: research, habitat, protection, laws and enforcement, and education. Each one is an important pillar in a structure that we're building. If one or more of those pillars is weakened or missing, the whole structure will fail.

If I knew more about the EPA, I could comment on specific funding levels that should be part of this program, but I think that you can make that decision. The important thing is in your perspective that it be part of an essential pillar to the structure that we're building, and if the environmental education component is weakened or missing, the whole process will fail.

So, it must be given equal weight to the other categories.

Chairman OWENS. Do you care to comment, Mr.—yes, sir.

Dr. SAN JULIAN. Mr. Chairman, I think having gone through this environmental education bill when I was teaching junior high school, I think the important thing here is the commitment of Congress, the commitment of the Federal Government to doing something meaningful about environmental education.

As Steve indicated, the money is small—and I agree and I would like to see it increased as years go on—but the idea of commitment is important.

Those first few years the states were very excited about environmental education. They put together many programs in hopes of getting supporting money from the Federal Government. All of this was dashed through the 20 years since then, and they lost interest in some cases. Others took up that interest.

But the commitment is the most important part of this. The government must provide that commitment and must provide the overall leadership to this kind of education.

I guess President Johnson indicated once in one of his speeches that the one way to cure the world's problems and the United States' problems is through education. This small investment will produce immeasurable benefits as years go in prevention of pollution and the need for fining people or for making legislation and regulation.

So, it is the commitment that we're stressing.

Chairman OWENS. Mr. Wilson, you gave an excellent summary of the history of this effort at the Federal level. What do you think? Are we on the right track? Is there a danger that by asking for so little and by moving in such a small way we're going to get labeled as being insignificant and always be forced to remain a tiny effort?

Mr. WILSON. Well, I think as was said earlier, $15 million is a whole lot more than zero.

From my perspective in looking at the history of the Federal involvement and particularly the Environmental Education Act itself that I talked about a little bit earlier, I really agree with Steve. I think the important point here is that a system be put into place that has an infrastructure that can continue. That is of paramount importance.

I've been involved in environmental education programs of one shape or form for the last 20 years. Some of those have been funded with Federal dollars from a variety of organizations and have been finite projects. They've been projects that have lasted for one year or three years, or something like that. Very often those projects did not require any kind of structure, any kind of matching money, any kind of system that would provide for that project to continue over not only the period of the grant but also as the grant ends.

That's one of the reasons I guess I'm so interested in the whole idea of networking public and private entities. Networking I think is going to become our byline for a lot of governmental programs, whether they're environment or education, or whatever. In my mind, again, it's not so much the amount. I applaud the $15 million. I would hope that wouldn't be something that would be battled over every year, but would be a visible recognition from the Federal level.

I live in a state that responds very often to what happens at the Federal Government, sometimes positively and sometimes negatively. We passed environmental education legislation this year in the State of Kentucky without having to have the way shown to us in the Federal Government. However, I think if this bill were to pass, the effort within the State of Kentucky, as well as many other

states, would probably triple just because of the fact that this has been made visible and it's been shown to be an important step.

So, again, to me amount is not important. I guess what I'm saying is how we get the biggest bang for our buck.

Chairman OWENS. You think the return of Federal leadership and visibility on this issue is most important.

I think, Mr. Roberts, you had a good perspective. You saw it from the macro angle in terms of what public television could do in this area and you appreciate the impact of a big international event like the ICEWALK on the whole problem. Yet, you talked about the fact that you work with schools and young people now, et cetera.

The inevitable question that you're going to get from me, you must have known, is what can you do for my district? I can't get young people interested in anything and I certainly would like to know. You don't have to answer this in detail now, but we intend to get your address and phone number and be able to reach you very soon for ways in which you can more specifically get young people involved in an area like this, something constructive.

Mr. ROBERTS. Well, I think in reference to the amount of money we're considering here, the $50 million, I don't think that the amount is so——

Chairman OWENS. Fifteen million.

Mr. ROBERTS. Fifteen million, right. I'm not sure that the amount is so significant as how effectively that money is used. I was just a single individual out of millions in our country, or tens of thousands in my community, who had a drive, a desire, a need to contribute to that community.

I had the opportunity and looked for the opportunity to do something that would grab the interest of these youth, to do something that would begin to turn for them the wheels of hope because they could identify with me and they could identify with some of the struggle that I went through as I related to some of the struggles they might go through on a daily basis or they go through on a daily basis—that I'd gone through myself when I was that age.

So, I think one of the key ways of effectively reaching these kinds is using something of interest to them because, as all children learn through observation, if you gain their interest first, you can teach them anything.

Chairman OWENS. Thank you. I want to thank all of you for your stimulating discussion.

Mr. Jontz.

Mr. JONTZ. Thank you, Mr. Chairman. I join you in your commendation of all the witnesses in this panel for good statements.

I want to make sure that I understand the message, Professor Wilson and Mr. Kussmann, that you have for us. If I hear what you're saying correctly, you believe that rather than making lots of grants at different places which will have a very temporary impact, you feel like the resources that are available ought to be used to develop some structure, to develop some community-based institutions that can—with community ownership—function over longer periods of time.

Is that correct? Is that what the network that is being created attempts to do?

Mr. WILSON. Yes, although I would also support the grant program. I'm not suggesting that that not be put into place.

What I'm suggesting is that very often grant programs in education from the Federal level are short-term and they're short-term because there has not been enough attention given to some sort of structure that will carry those programs forward.

The network seems to be working in a variety of ways to provide people with a variety of opportunities down the road. I mentioned the example of the Tennessee Valley Authority, for example, which of course is a Federal agency. The amount of money that they are putting in at this point into the network in their area is really being quadrupled by some of the money that's being generated by local and state entities.

So I guess my point was that we don't just do the typical Federal thing, so to speak, and that is to pop out a grant to someone to do a tremendous job in curriculum development in hopes that then will become what everyone will follow. It just doesn't tend to work that way.

Mr. JONTZ. Well, I think we should look very carefully at what happened with the previous programs. I guess I have some skepticism of whether running a new program through the state educational agencies and the vast bureaucracy that now exists is the right way of doing it. I think one of the positive aspects of this bill is it focused on EPA, an agency whose mission is pretty clear, and avoids some of the existing bureaucracy which engulfed the previous efforts. Maybe that's something we ought to have learned.

I like the idea of using the universities and the community organization, citizen-based groups. They're going to put a lot into it and we're going to get a lot more for our money that way probably than just going through the chain of agencies.

Dr. Blanchard, your perspective is unique. You have focused on the socio-cultural patterns, group norms, personal ethics and patterns of communication that influence people's behavior. I think what you're saying is that an understanding of how people function in their communities and how their behavior is determined is something that successful environmental education is to be predicated on.

You have focused on community aspects of society or segments of society where the impact of behavior and life patterns is very high, at least when you measure it in terms of population of bird species that are important.

Is what you're saying that this sort of an understanding of social and cultural patterns is critical no matter what population you work with. Is that what you're bringing to the committee?

Dr. BLANCHARD. Yes. Thank you, you understood precisely what I was saying. While it seems a bit simplistic when describing remote fishing villages and populations of 350, I think some of the same principles apply. That it's not merely the provision of information that's going to make a difference here.

In fact, educational studies show us that while that might be helpful, it is not sufficient, that we've really got to—if we want to change people's behavior, and I think we agree that there a change that needs to take place here—that we've got to look at other factors that really influence people.

On the broader scale, look at the very fact that John Denver testified, someone who is a spokesperson that touches the hearts and minds of all American people rather than through signs and fines. So that's an example of a leader from not necessarily in the professional environment or the education community.

Mr. JONTZ. Well, I appreciate the good work that your foundation is doing now. I guess I'm interested in pursuing the idea of whether similar sorts of efforts need to be made in other communities in this country—although your efforts are in Canada to some large extent.

I spoke with Mr. Denver about the Pacific Northwest and those are communities that are in transition and the same sort of social patterns and individual norms—or individual ethics and what have you—I mean those issues are very critical.

I think maybe the people who live not far from my district, who live within the community close to our Nation's steel mills where they're dealing with toxic pollutants from the coke ovens every day, and how they interact so directly with an issue that's very current in terms of what's happening with the Clean Air Act.

I don't know where to go with your idea, but I guess what I want to say is I like the idea of trying to work with some particular populations that may not be great in numbers but nonetheless are very important in terms of their interaction with the natural resource base.

Dr. BLANCHARD. May I add one comment?

Mr. JONTZ. Sure. Please.

Dr. BLANCHARD. The way, as I see it, to apply it to the broader scale as I look at this bill, is to pour your energy into the leadership training component. That's where I'd put my focus.

Not in the dissemination of more materials; other institutions are doing that now. Not in creating more curriculum materials. But leadership training. That is our most important need within environmental education today.

Without going into detail, that's how I would apply the principles of our program in remote villages which captured local people and got them involved in leadership training and utilized people from all sectors of those communities—community leaders, mayors, church leaders, grocers, fishermen—and gave them that kind of training.

Now do it on a broader scale and make this a people oriented program.

Mr. JONTZ. So what you're saying is that we could write the best curricula in the world and put it in an envelope and send it to Gary, Indiana or Darrington, Washington and it would have no impact.

But if we use the same money to work with some leaders from those communities and heighten their awareness and understanding of the environmental issues involved, when those individuals return to the communities, or in their day-to-day life in interacting with their neighbors, they would have an impact that would be multiplied many-fold and they come from and are a part of that social network that you're speaking to that is the prism through which the changes have to occur.

Dr. BLANCHARD. Absolutely. So that it becomes a part of their group norm, their communities, their patterns of communication within their smaller network at home. That's what will make it durable and effective.

Mr. JONTZ. I thank you and again thank all of the witnesses for the good testimony this morning.

Chairman OWENS. Mr. Payne.

Mr. PAYNE. Thank you. I certainly don't have any questions because unfortunately I had to miss a good portion for your presentations. I apologize for that but there were some other callings.

I just would like to say that I am concerned just generally about the environment as it relates to urban areas. I'm concerned about environment in general and I hear about the Clean Air Act and we have Earth Day and all, and that's great. But a lot of the area I live in, the earth is never seen. It's all blacktopped over.

A kid in our suburban areas who trip and fall, the worst that would happen is he might get some grass stain on his knee or on his trousers where kids play ball and broken glass is around. It's just the whole question of the environment is so different.

I am concerned that as we look at global warming and the ozone layer and all of the more vogue environmental jargon that we have some concern about urban environments. Our schools have asbestos in them that's not removed, and I think there is a direct relationship to toxics and some of the environmental pollutants in education in general where there has not been any connection made to date but there are some educators who feel that there is a direct correlation between some of the very negative environmental factors in urban education.

So I hope that as we move along and try to get this moving, that as we go into the discussion in the future, we can keep the broad picture going. But there are some very specific areas that we've got to really take some research and some concern and some interest in trying to turn that around.

Unless anyone would like to respond to it, I don't have any specific questions for anyone. Thank you.

Mr. WILSON. Mr. Chairman, could I respond? Just one small note, Mr. Payne.

I think one of the things that I noticed as I read through the legislation that you're proposing was that the terminology related mainly to educating about the natural environment—one suggestion might be to consider the possibility of changing that to natural and cultural environments.

There are a number of environmental educators around the country that are very much involved with urban environmental ed programs and perhaps the change in language might help to encourage more urban areas to become involved in programs which connect nature and culture through the built environment as much as through the natural environment.

Mr. KUSSMANN. Mr. Chairman, I think that's also an important point in looking at the dynamics of environmental education. Your point is well taken because we're discussing here a Federal initiative in Washington, DC which will reach out through the EPA through its various regions and what not.

But, really, the key, as Kathleen and others have pointed out today, is that environmental education is a grassroots localized issue. It's going to come out of the community in which these issues are important. And if they are important and the leadership and the proper mechanisms to support that are there, it is going to happen. If they're not there, nothing we do here will make a difference.

It is something that is far more complex than a hearing such as today's can really get into. But it also underscores why what you're doing is so critical and why it is so important despite being perhaps in a Congressional term a cheap date. This is a very, very important piece of legislation. It's important for American business, it's important for American citizens, it's important for urban areas, it's important for rural areas, it's important to this Congress, it's important to this Administration.

Therefore, it deserves serious consideration and consideration of what has been learned and what has gone before and to build on that progress. It really is.

The issues that you're addressing can be dealt with. There are programs that are dealing with those. There's some excellent programs going on that are dealing with those and they can be partnerships with others, they can be network, they can be brought to bear with the right kind of training or whatever.

So, don't lose hope.

Chairman OWENS. I want to thank the panelists. We look forward to hearing from you if you have any further recommendations as we go forward to make a few amendments on this bill before it's marked up. Any items you'd like to submit for the record of this hearing you may submit within the next ten days.

Thank you again.

[Whereupon, at 12:35 p.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows.]

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April 19, 1990

William K. Reilly
Administrator
Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Reilly:

Thank you for your testimony to the Subcommittee on Select Education earlier today. I was heartened to learn of the Administration's support for the National Environmental Education Act (H.R. 3684). However, your testimony raised objections to two elements in H.R. 3684: the establishment of a trust fund to assure reliable funding of environmental education, and an active role of EPA in developing and disseminating model programs, materials, and curricular elements. I would like to continue the discussion that emerged during this morning's hearing to provide perspective as this measure moves toward legislative action.

First, let's look at the issue of "line item" versus "trust fund" program funding. Elementary public finance courses routinely drive home the point that having separate pots of money for separate activities is usually not desirable because it risks having funds allocated inefficiently (with excess funds remaining unused for some activities, and with inadequate funds for other activities). Moreover, having separate pots of funding makes it difficult to rechannel the flow of funds to meet short term crises and to meet the need for longer term structural changes.

In certain limited cases, these are also the virtues of the trust fund approach. Many activities authorized by law never receive funding (or receive token funding that does not allow the program to do what the law intended). Funding often comes and goes as the public spotlight swings from one issue to another. Our nation's experience with the environmental education program, set up nearly two decades ago, illustrates these risks all too well. The practical effect has been that despite some useful local initiatives, our nation has been left without an effective environmental education program

To meet that risk of varied and unsustained funding, our nation has determined that adequate funding for certain vital programs of long-term national interest is just too important to leave to the vagaries of the moment's political bandwagons and media fatigue. This is why we have the Highway Trust Fund and the Social Security Trust Fund.

In our time there is no issue more important than the environment. Education is vital in transforming environmental crises into opportunities. As you note in your written statement, President Bush has said, "Through millions of individual decisions--simple, everyday, personal choices--we are determining the fate of the earth. So the conclusion is also simple: We're all responsible, and it's surprisingly easy to move from being part of the problem to being part of the solution". And, as you argue, "This is why environmental education can play so substantial and important a role. ...We must make great strides, too, in encouraging voluntary changes in individual habits--to cut waste and to prevent pollution before it becomes a problem. Heightened public sensitivity to the environmental consequences of individual and collective action is a benefit of environmental education." Along with research, regulation, and evaluation, education is a pillar of effective environmental policy. It amplifies the effect of regulation. Without it, your agency's other activities have minimal and fleeting impact.

This is precisely why a trust fund approach is appropriate: the issue is long term, is of critical national interest, and is too fundamental to leave to short-term and often random forces in the funding process. Your own testimony implies that the routine funding from general revenues is likely to be inadequate; you note that, "we are presently exploring alternative funding mechanisms, including the possiblity of authorizing the Agency to receive private contributions for environmental education programs". There may be a role for such "contributions". But the fundamental fact, as your own testimony recognizes, is that it is important to go beyond the yearly line item approach to fund what needs to be done. The 'trust fund' simply builds on another type of 'contribution' to improving America.

This approach has more than sustained funding to recommend it. If we can assume consistent and appropriate enforcement of the law by EPA, then one of the virtues of the environmental education trust fund (linked directly to penalties paid by polluters) is that if pollution problems increase then funding for environmental education increases. It is those educational activities that will, in time, prevent the need for such extensive enforcement activities. That is, a trust fund is the appropriate way to fund environmental education because pollution problems will directly amplify public pressures to curb pollution. If pollution problems recede, then funding recedes. This links the current problem to the prevention of future problems more effectively than do the vagaries of a bunch of guys sitting in a committee room determining how to allocate too few funds among too many favorite programs.

The trust fund approach is particularly appropriate in the case of environmental protection where the diffuse consequences of the problem and the frequently long time lags make it very difficult to organize affected citizens for effective lobbying and other political action. Particular industries or other narrow groups have fewer problems in organizing to be heard in our nation's policy process. Your experience as head of the World Wildlife Fund/Conservation Foundation (as well as experience in your current post) should have convinced you of this fundamental fact of political (and bureaucratic) life. Education is not a quick fix approach. Yet education's final impact will be far greater than regulation and enforcement. It is this long-term linkage of cause and effect that makes sustained funding so important.

In sum, the virtue of the trust fund approach for environmental education is that it recognizes that--like the nation's highway infrastructure and the long-term need to adequately finance social security--dealing with environmental problems is critical to our nation's future and is too important to be left to the political whim of the moment. And, like highways and social security, the proposed funding formula links the level of funding to the scope of the problem. Because--like highways and social security--environmental education is a core issue of long-term national interest, it is fully appropriate to utilize a trust fund format to assure continued funding. The Reagan and Bush administrations have manifested great enthusiasm for user fees as a way to finance important governmental activities without general tax increases. The funding proposal in this legislation simply builds on that approach where it is most appropriate. If your agency had been educating all along, you might not need an EPA with an enforcement budget of over $5 billion.

In view of these factors, opposition to trust fund support for this program implies that (1) in terms of the funding process, environmental education is similar to subsidizing peanut growers or art education, and (2) the implications for life in this nation and on this planet are more like determining the subsidies for farmers than it is like providing for long term national infrastructure or for the long term well-being of today's wage earners. Given your testimony's strong endorsement for this program, opposition to the trust fund may be bureaucratically useful, but it does not appear consistent with the priorities that you identify.

Secondly, your testimony expresses concerns with sections 2 and 4 of the bill that refer to EPA and the proposed Office of Environmental Education as supporting the development of environmental education curricula. You noted the wide variety of programs and expertise that already exists in universities, NPOs and in research and education centers. You argue that EPA's role as a lead agency should be to encourage and spark curricula development, education programs, and training materials--not to develop them in the Agency.

I strongly agree with some of the points that you seem to make here, but fear that they could mask a rationale (intended or not) for future inaction in promoting environmental education. Let's look at each issue: (1) the role of other actors in developing and encouraging environmental education, and (2) the proposed EPA role in providing infrastructure for these programs.

Your testimony indicates that EPA already is active in developing networks, materials, and curricula. For example, you testifed that the pilot project of your Region X office in Seattle uses local environmental issues as a tool for illustrating the interrelationships between academic subjects and to help students understand their role in protecting the environment. As you state, "The project has three elements: to develop an integrated environmental curriculum; to demonstrate resource potential of schools; and to show young people that they can make a difference". Your testimony indicates that EPA is already engaged, albeit on a pilot basis, in the activities that you express concern about in the legislation--yet you appear to endorse the activities now under way. That is, your objection to what is in the bill appears to be in contradiction with the current activities that you endorse at EPA. The legislation simply upgrades and provides funding for those activities. Do you oppose funding and upgrading these activities?

Clearly, it should not be the role of EPA to dictate a curriculum for state and local education agencies. The vast scope and complexity of our nation argue for local initiatives and responsibilities. Moreover, competition is vital to improving the quality of these programs. Educational pluralism, including state and local primary in areas of education (as provided for in the Constitution) remains essential. Nevertheless, EPA can help by helping support the development of effective materials, and by helping assure that effective programs and materials are recognized and made available to all Americans who wish to use them. This process of stimulating awareness, encouraging effectiveness, and sustaining the organizational infrastructure that is essential to these activities is an appropriate role for EPA. That is what the legislation calls for. I would be very interested in learning of any suggestions you may have for strengthening these roles.

This brings us to the second issue: the role of EPA in providing the infrastructure for improving environmental education. As discussed in relation to funding, I firmly believe that sustained effort with a clear organizational focus (to serve as the hub for decentralized activities) is essential if environmental education is to help bring about the changes in environmental awareness that are needed.

As witnesses testified, there is an abundance of materials being developed by many actors--but we lack the resources and sustained networks needed for cummulative effort. The program envisioned by this legislation should clearly support networks for environmental education. It should provide the "axle" that links local activity and generates multiplier effects from local action. From highways to social security to protecting nature, federal efforts have historically been an essential complement to other public and private efforts. It is wholly appropriate for EPA to help stimulate and to encourage model programs, strengthen training and to take other actions that facilitate environmental action by all Americans.

Many elements of government are already active in this area. Should EPA be the lead agency? EPA should have this lead role because it has the expertise in this highly complex area and has the organizational focus necessary to devote sustained effort to it. Our nation's experience with environmental education during the 1970s painfully reminds us that concern for environmental education can quickly be lost in other agencies.

While many agencies have some activities in this area, organizational focus and expertise indicate that EPA is the only agency able to put the pieces together again. For these reasons, the focus of H.R. 3684 is wholly appropriate because it builds on the interests and expertise of the agency to provide essential national infrastructure to significantly upgrade the quality of environmental education.

Finally, when we talk about environmental education, very seldom do we hear about what senior Americans can do--the millions of retired or semi-retired people who might want to participate in our environmental efforts in a voluntary way. Could you tell us your views on the roles they could play; what kind of educational apparatus should be made available to them; what Federal programs in the various agencies which deal with seniors could be coordinated with EPA's efforts; and what non-governmental organizations could participate in the development of environmental education for seniors?

As Senator Gaylord Nelson, one of the founders of Earth Day, has written:

> "When we think about urgent environmental issues, we think of problems such as global warming, pollution of the oceans, acid rain, hazardous wastes, exponential population growth, or many others. There is, however, an overwhelming case to be made that lack of pervasive conservation ethic in our culture is our most serious conservation problem. If we are going to reverse 200 years of resource exploitation we must establish in today's generation a conservation ethic to guide its conduct in relation to nature."

Quality environmental education is the key in meeting this challenge. In sum, ecology is the emerging crisis, and education is the key to meeting that crisis. If we are to have realistic policy, we must give priority to education, not regulation. As one witness said this morning, "signs and fines must be balanced with hearts and minds". H.R. 3684 provides the opportunity to do so.

Again, thank you for your interesting testimony. I look forward to continuing to work with you and others for effective environmental education.

Sincerely,

MATTHEW G. MARTINEZ
Member of Congress

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 18 1990

THE ADMINISTRATOR

Honorable Matthew G. Martinez
House of Representatives
Washington, D.C. 20515

Dear Mr. Martinez:

Thank you for your thoughtful letter of April 19, 1990, which followed up my testimony on H.R. 3684, the proposed "National Environmental Education Act," before the Subcommittee on Select Education.

Your letter addresses a number of concerns about environmental education generally and raises several questions with respect to the Agency's written testimony on the specifics of the bill.

Your comments on the trust fund for environmental education activities, which would be established by the bill and funded with 50% of all pollution control penalties, raise some interesting questions. Many of the arguments for and against this type of approach were aired at the hearing and in subsequent contacts with Committee staff. I would only reiterate here that we are opposed to the dedicated trust fund which H.R. 3684 envisions, favoring instead a separate line item in the budget to fund environmental education activities. We do recognize the need for greater flexibility in funding expanded environmental education efforts, however. In this connection, we are presently exploring alternative funding mechanisms, including the possibility of authorizing the Agency to receive private contributions for these activities.

Another of your concerns involves our views on EPA's role in the evolution and use of educational curricula generally. As we noted in our testimony, we envision the Agency's role as one of encouraging and sparking curricula development, education programs, and training materials and not of developing them ourselves. We do not see this view as being inconsistent with the on-going activities we are supporting nationally in this regard. We have also found that this approach meets with broad approval from individuals and organizations who have been active in the environmental education field.

The example of support for curricula development which we cited in our testimony involved a pilot project in Region X, Seattle. There we are funding one teacher in each of three high schools to research an environmental issue, prepare class

materials, and write appropriate lessons plans to be shared among several teachers in each school. This type of project appears to us to be well within the realm of our stated view of supporting curricula development rather than doing it ourselves. By providing the financial and/or technical means to assist non-profit organizations and teachers in developing classroom materials and instructing students, the Agency leaves curricula development and production to the experts, while serving as the catalyst for such activities.

Your letter also calls for our suggestions as to ways in which EPA can strengthen its role in stimulating awareness, encouraging effectiveness, and sustaining the organizational infrastructure essential to environmental education activities. In our view, we can best respond to your query about ways in which the EPA role can be strengthened by turning to the strategic plan which the Agency's Environmental Education Task Force has been developing. The plan, a draft of which is now being reviewed within the Agency, will provide the blueprint we need to build upon our existing programs and activities, establish a clear focus, improve our effectiveness, and define our national leadership role. We expect that the direction of the plan will be to ensure that the Agency stimulates the widespread demand for environmental education curricula and teaching materials; supports the delivery of such materials; establishes support systems among existing networks and organizations; and, highlights successes in the field. Once intra-Agency review is completed, we will take steps to ensure that the draft strategic plan will be distributed widely for public comment prior to final publication.

Your final question deals with the role that senior Americans can play, what Federal programs in various agencies could be coordinated with EPA's effort, and what non-governmental organizations could participate in the development of environmental education for seniors. The over-fifty population offers an enormous resource for environmental protection. These millions, many of whom are parents and grandparents, are concerned about everyday environmental issues such as indoor air quality, radon, and safe drinking water, as well as the preservation of natural resources. A majority of them are retired or semi-retired, and have not only the desire but also the time to get involved in environmental projects.

EPA is currently co-sponsoring a Senior Environmental Employment (SEE) Program with eight different non-profit organizations dealing with the aging, including the American Association of Retired Persons (AARP) which has an approximate membership of 33 million seniors. Program enrollers serve essentially as temporary support personnel. They work at EPA offices across the country in positions such as technical assistants, receptionists, administrative assistants, and chemists.

The SEE Program achieves the dual objectives of providing meaningful enroller employment and promoting a cost-effective method for helping EPA meet its environmental mandates.

Another program, still in the conceptual stages, is the proposed Senior Environmental Corps. This program would consist of senior volunteers who could help organize and lead environmental activities in their communities, including environmental education efforts. The potential gains for both the senior population and EPA of such a group of volunteers has prompted EPA to establish a joint task force with AARP to analyze and test implementation of a senior volunteer service. The task force is still in the early stages of work, but should be able to report on its findings in about six months. An AARP member on our staff is playing a key role in planning for environmental education activities at EPA.

This large population of senior citizens is spread throughout the country, offering a strong and comprehensive base for educational voluntarism. Also, many of the elderly possess skills such as teaching, farming, forestry, and health counseling, among others, which would lend themselves well to environmental education efforts. It is our hope that the task force will bring to light innovative methods for building public support for such a Senior Environmental Corps and provide us with recommendations for the development of an extensive educational apparatus to train volunteers for work in the environmental education field.

I appreciate receiving your views on H.R. 3684 and your vision of the way in which a national environmental education effort could be put to maximum advantage. I hope that we have clarified the Agency's position where appropriate. Please do not hesitate to let me know if we can provide any further information to you. We would be most pleased to work with you and your staff on environmental education issues.

Sincerely yours,

William K. Reilly

STATEMENT OF
ALLAN J. WEST
FOREST SERVICE
U.S. DEPARTMENT OF AGRICULTURE

FOR THE HEARING RECORD
SUBCOMMITTEE ON SELECT EDUCATION
COMMITTEE ON EDUCATION AND LABOR
UNITED STATES HOUSE OF REPRESENTATIVES

Concerning H.R. 3684
The National Environmental Education Act

April 19, 1990

The Subcommittee on Select Education recently held hearings on H.R. 3684, the "National Environmental Education Act," which is of interest to the Department of Agriculture and the Forest Service. As a result of discussions with the Subcommittee Counsel, we are submitting the following comments for the record.

We agree that the Federal Government should take a more active role in supporting and encouraging environmental education programs and activities. In October 1989, responding to recommendations to President Bush from a coalition of environmental groups and at the urging of the National Association of State Foresters, the Forest Service began to look at ways to further strengthen our environmental education program which focuses on forestry resource education. We recognize the need to devote greater resources to our environmental education programs, some of which were pioneering efforts in the field. We have met recently with the National Association of State Foresters, Project Learning Tree, and the National Arbor Day Foundation to consider ways of forging stronger partnerships in environmental education. The Chief has

established a National Resource Education Task Force to direct further strengthening of Forest Service environmental education.

In a formal way, the Forest Service's environmental education program was born more than two decades ago. In 1968, Edward P. Cliff, then Chief of the agency, directed that more emphasis be placed on environmental education. He was convinced that protection and wise use of the Nation's natural resources would only be possible if the Forest Service had the understanding and support of the public. Environmental training teams were sent out over the country to teach thousands of educators, Garden Club members, Forest Service personnel and others about the principles of environmental education and how to teach it.

The organizers worked with their training teams to develop a series of lesson plans called Investigating Your Environment. It was designed to be adjustable to any audience. Many Forest Service field units still use the lesson plans for their local or regional instruction, and many school teachers who were tutored by Forest Service teams are also still using the plans.

The driving principle of the instruction from the beginning has been to offer a program that conveys to both children and adults an understanding of the importance of our natural resources and their management. The program encourages linking the learning process to real issues, problems, and natural environments.

All regions of the country have some level of an environmental education program sponsored by the Forest Service. The vehicles used include workshops, speakers bureaus, conservation camps, conferences and interpretive services

programs. The Forest Service leverages its environmental education efforts by building strong cooperative agreements and partnerships with States, universities and conservation organizations. This maximizes the benefit received from the use of Federal funds for environmental education.

One of the most active environmental education programs is conducted by our Intermountain Region which includes southern Idaho, Utah, Nevada and the western part of Wyoming. Teacher training workshops for classroom teachers and resource agency people are emphasized. At the State levels, we co-sponsor with Project Learning Tree five week-long training sessions and we sponsor and manage an Intermountain Training team skilled in Environmental Education. Our activities are coordinated with 27 co-sponsors in the four States.

Some of the most active cooperators and sponsors in Forest Service environmental education across the country are garden clubs, carrying on an historic relationship with the agency that dates back more than half a century. It was back in the Thirties when a Forest Service employee, Margaret March-Mount, became known as the "ambassadress of trees" for mobilizing women and children in gaining knowledge about the forest environment and planting trees to assure forests forever.

In addition, the Forest Service has been interpreting natural resources for the American public since the 1960's. Today, we have an active interpretive services program that includes everything from campground talks to elaborate visitor centers. An example of our program is the Cradle of Forestery near Asheville, North Carolina, which provides living history tours of the area where forestry began. At Mount St. Helens National Monument, we have an award

winning visitor center which hosted over 485,000 thousand visitors last year.

The Forest Service could not do the job of interpretation without our partners. Interpretive Associations, friends groups, concessionairs, permittees, volunteers, and corporations, and others join with us to bring the environmental conservation message to the American public. An example is a brochure about Scenic Byways that Chrysler Motor Corporation in every car it sells. The 49 Interpretive Associations help the Forest Service bring the environmental conservation message to our customers by selling materials, providing facilities and staff because they feel interpretation is as important to their communities and the visiting public as we do.

The historic home of Gifford Pinchot, Grey Towers in Pennsylvania, serves as the Pinchot Institute for Conservation Studies and has an aggressive program underway to increase public awareness about natural resource conservation and to identify and seek innovative solutions to emerging natural resource issues.

We support the concept and intent of H.R. 3684. In recognition of the role the Forest Service has in environmental education and in an effort to ensure that partnership efforts are recognized and encouraged, we are proposing a number of changes. Briefly, our areas of concern with H.R. 3684 are:

(1) Need for recognition that environmental education is of primary concern to a number of Federal natural resource agencies and that there are existing environmental education programs;

(2) Need for acknowledgement that both formal and nonformal components are necessary to accomplish the goal of making Americans more knowledgeable about their environment;

(3) Desire to expand the National Advisory Council to include members from other Federal natural resource agencies and to ensure representation by both State natural resource and education agencies; and

(4) Recognition of existing successful environmental education programs.

The National Association of State Foresters

Comments by the National Association of State Foresters on H.R. 3684, the National Environmental Education Act

The National Association of State Foresters (NASF) applauds Congressman Miller, and the many cosponsors of the National Environmental Education Act (H.R. 3684), for their commitment to improving, what should be, an integral part of our children's education. The intent of H.R. 3684, to increase public understanding of the natural environment and to advance and develop environmental education and training, is fully supported by NASF. However, NASF would like to raise several concerns for your consideration.

First, NASF recommends that the Act may be enhanced with a formal definition of environmental education. A definition should be inclusive, with both the human-made and natural environment, and should be interdisciplinary. It should also address all levels of the environment, from local to global.

EPA Office of Environmental Education

The legislation establishes the Environmental Protection Agency (EPA) as the lead agency for implementing this act. While NASF agrees that EPA is uniquely qualified in the area of environmental education, the EPA should, as stated in Section 4, work closely with the Department of Education (DOE) and other Federal agencies to coordinate environmental education programs. The DOE is directly linked with primary and secondary schools throughout the nation, providing an important inlet and oversight needed for a program of this scale. NASF's cooperative partner, the USDA Forest Service, has a long history of providing natural resource education, both directly and in cooperation with educational institutions, state and local agencies and non-profit organizations. This established leadership in natural resource education should be recognized and incorporated into an overall environmental education program.

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NASF is also concerned that much of the specified development work of the Office of Environmental Education may be a duplication of efforts. Other Federal agencies including the Forest Service, Bureau of Land Management, National Park Service and Fish and Wildlife Service, plus many not-for-profit organizations have already developed environmental and conservation education information programs. The Office should concentrate on supporting these existing programs and disseminating information already generated.

Environmental Education and Training Program
NASF has two concerns with the Environmental Education and Training Program. The legislation does not recognize existing conservation and environmental education networks and partnerships. It favors institutions of higher education, overlooking less formal educational entities which have been involved in promoting environmental education. Educational programs such as Project Learning Tree, cosponsored by the American Forest Council and the Western Regional Environmental Education Council and the Fish and Wildlife Service's Project Wild, are just two examples of highly successful existing programs.

Related to this, is the concern that the legislation establishes a single training program. A more cost-effective approach would be to capitalize on the broad-based network of successful training programs such as those listed above and those already provided by other Federal agencies.

Environmental Internships
NASF supports the idea of environmental internships but believes they should be redirected towards teachers rather than students. This will benefit in-service and pre-service teachers who need a better understanding of the environment for assisting them in successfully teaching environmental education curricula. These internships should be fully funded, so all agencies may participate.

NASF questions why internships are limited to federal agencies. State agencies could also provide great opportunities for environmental internships. State forestry sponsors of Project Learning Tree already have close ties with teachers across the country. Internships for these teachers would help expand their base of knowledge of the natural environment.

Environmental Education Advisory Council
The Council should reflect a broad range of environmental interests and philosophies. NASF would like to stress the importance of representation from Federal natural resource management agencies on the Council. Many natural resource agencies have been very active in developing and implementing conservation education programs and would play an integral role on the Council, providing both insight and guidance towards incorporating environmental education programs into existing networks.

Statement For The Record

of

John Padalino

President

Pocono Environmental Education Center

and

President-elect

National Science Supervisors Association

before the

Committee on Education and Labor

of the

United States House of Representatives

April 20,1990

Testimony on H.R. 3684: The National Environmental Education Act

Statement for the record from John Padalino, President, Pocono Environmental Education Center; President-elect, National Science Supervisors Association; and Chairman of the Environmental Education Task Force, National Science Teachers Association.

The Pocono Environmental Education Center (PEEC) would like to thank the committee for requesting our testimony in support of the National Environmental Education Act.

PEEC, in cooperation with the National Park Service, is the largest residential center for education about the environment in the Western Hemisphere. PEEC is a private, non-profit organization committed to the development and growth of environmental literacy among people of all ages. It provides both field and classroom opportunities for the introduction and advancement of the knowledge, skills, and habits of mind necessary for understanding and appreciating the environment.

PEEC supports the National Environmental Education Act and the link it will create between the Federal government, the private sector and environmental educators.

The pressures of demand on limited resources, and the impact of hitherto acceptable behaviors on the utilization of resources requires an

understanding of their application to science, technology and society. It is clear that a citizen of the United States can no longer function without an understanding and a commitment of the human to the environment. This commitment is necessary to maintain an environment fit for life and fit for living.

The Federal government needs to more actively support and maintain a presence in environmental programs. Passage of the National Environmental Education Act would ensure the creation of a joint commitment to environmental literacy. Without this commitment, we can neither foster nor maintain a sanative (healthful and healing) environment. Hence, the more federal attention directed towards environmental education in this Act, the more appropriate it will be to the fundamental question: "What kind of a world do we want for our children?"

The demand for active leadership and statesmanship among us is at its greatest. This National Environmental Education Act marks the beginning of a major initiative that focuses on action in arenas of both policy and practice.

PEEC is committed to improving the quality and quantity of environmental education that both children and adults receive through our numerous

classes and workshops.

Renewed support of environmental education is an important concern not only in relation to environmental issues but also due to the influences it can have on social problems. For example, PEEC's Summer Enrichment Program for inner-city youth at risk increases their environmental awareness and addresses the social and scholastic problems these students face. (see appendix.)

PEEC believes environmental education:

1. is total education in a total environment - natural and human-designed, ecological, technological, social, cultural, and aesthetic.
2. is a continuous life-long process both formally in school and non-formally out of school.
3. is interdisciplinary.
4. emphasizes people's direct involvement to prevent and solve problems.
5. examines issues from a global perspective while accomodating for regional differences.
6. focuses on current and future environmental situations.
7. examines all development and growth from an ecological perspective.
8. promotes local, national, and international cooperation to help solve environmental problems.

The federal government needs to recognize similar guidelines and develop specific objectives for environmental education under this Act.

PEEC supports the provisions of H.R.3684 which will establish an Office of Environmental Education, create an institute for teacher training, provide grants, support internships, and provide awards and recognition for exemplars in environmental education. We also believe attention must be directed towards the educational efforts of non-profit organizations and the successful merger of the public and private sector. Exemplary partnerships viz. National Park Service and PEEC have been working well for nearly two decades. Cooperative activities utilizing National Parks as non-consumptive educational resources for teaching about the environment would be an effective way to coordinate with related programs.

The National Science Supervisors Association also supports the provisions of this Act. NSSA is committed to the development of environmental literacy for a sanative environment and is concerned with the bond between science and education about the environment. (see appendix).

With our quickly vanishing wilderness and environmental decay, education about the environment forms a critical component in our schools. This Act is both necessary and timely. Without greater attention and

protection, the quality of the environment left to study in the future will be at risk.

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Statement of
The National Association of Public Television Stations
Submitted to
Subcommittee on Select Education
Committee on Education and Labor
United States House of Representatives

April 30, 1990

The National Association of Public Television Stations (NAPTS) is a membership organization of the nation's 341 public television stations. NAPTS represents its members before Congress and federal agencies, and provides services such as planning, research, and communications expertise. The organization is supported entirely by dues from its member stations and does not receive federal or state funds. The Association appreciates this opportunity to comment on H.R. 3684, The National Environmental Education Act.

NAPTS applauds the bill's sponsor, Congressman George Miller, for introducing the bill; and Chairman Major Owens for demonstrating his commitment to environmental education by holding a hearing on the legislation. Public television considers itself a partner in the mission to heighten public education and awareness of environmental issues as public television stations across the nation launch 1990 as the Year of the Environment. This theme will be reflected in a number of nationally distributed new series and specials, and will also be featured in ongoing programming such as Sesame Street, Mister Rogers' Neighborhood, and the Nightly Business Report.

Equally exciting are the programs being produced to address local and regional issues. For example:

-- ICEWALK is an environmental education public television series designed to inspire young people to work to save the earth's environment. It features Darryl Roberts, a Harlem native, who was the youngest person and the first African-American to walk to the North Pole. The ICEWALK series will be available to grades 7-12 in September 1990; it documents the journey of an international expedition team as they travel through blistering cold and life threatening danger to reach the North Pole.

-- Texas Public Television has produced "The Hazards At Home" which focuses on the often unrecognized dangers of everyday household products, from used motor oil and cleaning products to fertilizers and insecticides. The program identifies items that people might not perceive as toxic, and offers tips on handling household chemicals and other products. The program explores how seemingly

insignificant decisions by thousands of people can add up to major environmental consequences for everyone.

-- North Carolina Public Television is featuring an environmental education program, "Healing Birds of Prey", which details the Carolina Raptor Center's programs to return injured wild birds to their natural habitat. Other locally produced environmental programs include "Crisis on the Coast" which describes the decline of the estuarial system in the Pamlico Sound area; "Return to the Sea" with underwater cinematography portraying the beauty and value of North Carolina's coastal waters; and "The Beaches Are Moving", which focuses on coastal problems such as overdevelopment and erosion.

-- The New Jersey Network won a Philadelphia Emmy for its production of "My Pine Barrens", a half-hour documentary about the ecosystem, history and population of the Pine Barrens area of New Jersy. As part of the Network's instructional television service to students from K-12, it provides two series, "The Human Community" and "New Jersey Studies", both environmental education programs. In celebration of Earth Week, the Network featured three programs by Tom Brown, a native New Jersey outdoorsman; the programs dealt with reading animal tracks in the Pine Barrens and the beach, and survival skills in the wilderness.

-- WLIW in Long Island sponsored an Earth Day celebration at Eisenhower Park. One thousand white pine saplings were given away and the gathering featured exhibits by local, state, county agencies and environmental groups.

-- As part of its Earth Day recognition, WFYI in Indianapolis broadcast a prime-time report on the battle for the southern Indiana wilderness; produced "Environmental IQ" quiz spots to teach about how individuals can make a difference; and distributed trees to the community.

Public broadcasting offers an extremely cost-effective and powerful teaching resource with access to millions of our nation's students. Public television programming specifically for classroom use reaches 29 million students in elementary and secondary schools. In partnership, public television stations and more than 1500 colleges and universities nationwide provide college-credit television courses to over 250,000 students, many of them working people who could not attend traditional classes.

For the nation's teachers and students and viewers of public television, who each week average about 100 million, the medium's commitment to environmental programming is not new. H.R. 3684, however, offers the opportunity to expand programming and viewership, to encourage local and

individual involvement, and to diversify public broadcasting's community services such as training -- with the overall goals of public education and the nurturing of an environmental ethic.

H.R. 3684 seems to suggest that limited financial resources dictate that partnerships be formed to provide for the broadest possible dissemination of education materials, training curricula and general information exchange. Public broadcasting was borne of a marriage of educators and other public interest groups and has traditionally been their medium of choice. For example public television's Year of the Environment includes:

-a school campaign -- supported by the National Education Association, National Parent-Teacher Association, American Association of School Administrators, National Association of Secondary School Principals and the National School Boards Association -- will provide posters, teachers tune-in and activity guides on PBS environment programs and a booklet for offering tips on ways students can make a difference. The education associations will assist in promoting and distributing materials to schools nationwide.

-a fall teleconference for educators on how to develop environmental curriculum and incorporate concern for the environment into the classroom.

-development of an extensive "Environmental Resource Compendium" for educators, libraries, and community use.

-guidelines and other resources for youth contests, outdoor events and suggested Earth Day activities, as well as environmental action tips for consumers and for businesses.

-development, with the guidance and cooperation of national environmental groups, of a series of video vignettes for use as fillers on the theme "You Can Make A Difference."

Public broadcasters intend to take an activist role in the programs authorized in H.R. 3684. While the bill attempts to be inclusive in its eligibility criteria for the programs it will authorize, it is not clear that public broadcasting stations would be eligible to apply. Public broadcasting stations are legally defined by the type of Federal Communications Commission license they hold; not all are considered "not for profit" organizations as defined by section 501(c)(3) of the Internal Revenue Code; they are not local education institutions or State education agencies even though they may be closely associated with these entities. As an absolute clarification, NAPTS recommends that public broadcasters per se are included in the

statutory language which defines eligiblity, and throughout the legislation where clarification seems appropriate.

Public broadcasting is a valuable national resource which has a demonstrated interest in environmental issues. It is closely linked to the education and environmental communities, and is perfectly poised to play a leading role in reaching millions of Americans to educate, train and motivate. Public broadcasters are eager to engage their national and local audiences in the debate about the future of our fragile planet. We urge the Committee to include specific statutory language which will allow our members to participate in this critical national mission.

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Statement for the Record

of the

American Institute of Biological Sciences

on

HR 3684

The National Environmental Education Act

Prepared for the

Select Education Subcommittee

of the

House Education and Labor Committee

April 19, 1990

The American Institute of Biological Sciences (AIBS) appreciates the opportunity to comment on HR 3684, the National Environmental Education Act, as introduced by Congressman George Miller. AIBS is an organization composed of 41 member societies and research laboratories representing some 70,000 biologists. The Institute was established in 1947 by the National Academy of Sciences as a non-profit organization to "further the advancement of the biological sciences and their application to human welfare, and to foster and encourage research and education in the biological, medical, environmental, and agricultural scienes."

AIBS strongly supports the National Environmental Education Act. Knowledge and understanding are essential underpinning for developing policies to deal successfully with the multiple and diverse problems facing the planet. Public concern for the environment is at an all-time high, but public understanding of the issues is often woefully inadequate. The response to environmental issues is often out of proportion to the magnitude of the risk. We support programs that will promote an understanding of the natural world and human impact on it including understanding the necessity to preserven biological diversity, the world's natural resources, and air and water quality.

We would like to see the Office of Environmental Education that will be established in the EPA cooperate with NSF's Directorate of Science and Engineering Education, and we would like to see it support projects in museums, zoos, and aquaria, etc. as well as in formal school settings. We support the many efforts already underway in the elementary and secondary education communities for development of curricular materials. Inquiry-based

projects and hands-on experiences in the application of knowledge to practical problems are the most effective approaches to "environmental literacy."

While education of the general public is important, AIBS believes that a science-based training of college students is essential. There is an urgent need for development of stronger programs in Environmental Science and Environmental Studies at the undergraduate college level. These programs are necessarily interdisciplinary cutting across the traditional departmental structure in universities. Such interdisciplinary programs must often compete with the traditional departments for faculty, students, and resources. As a result, the interdisciplinary programs do not often receive adequate resources from the central administration.

AIBS believes interdisciplinary education must be based on a strong science component, resting on a solid foundation in the basic sciences including biology, chemistry, and earth sciences, supplemented by the social sciences and humanities. We strongly support the bill's provision of internships for college students, and believe that addtional support in the form of grant programs for college level environmental education programs should be considered. In addition, graduate fellowships are essential to encourage and retain talented students interested in environmental education. It is students in such programs who will eventually be the experts the nation turns to in the future.

It is our hope that this bill will send a clear message to colleges and universities to provide adequate resources to these interdisciplinary Environmental Sciences/Studies programs.

STATEMENT OF
THE AMERICAN GAS ASSOCIATION
BEFORE THE
SUBCOMMITTEE ON SELECT EDUCATION
COMMITTEE ON
EDUCATION AND LABOR
UNITED STATES HOUSE OF REPRESENTATIVES
ON
H.R. 3684
THE NATIONAL ENVIRONMENTAL
EDUCATION ACT

April 19, 1990

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Introduction

The American Gas Association is a national trade association comprised of some 250 natural gas distribution and transmission companies throughout the United States. Collectively, our members account for approximately 85 percent of all end-use sales and serve over 166 million consumers. As an organization deeply committed to helping our nation improve the quality of its environment, we strongly support H.R. 3684, the National Environmental Education Act and appreciate the leadership role Rep. George Miller has taken on this issue.

Environmental awareness is brought about through public education. This goal is best served if the public has access to a free and truly diverse marketplace of ideas. Government should not be the sole source of information. Nor should industry or private environmental interest groups. Rather, these and other groups should work together to provide accurate insights and perspectives on the environment.

We commend this subcommittee for holding hearings on this new environmental education initiative. The timeliness of this hearing reinforces the fact that public concern for the environment and the health effects of pollution has never been greater. While consumer response to pollution concerns is causing more and more businesses to reassess their attitudes towards the environment, it is the government, through initiatives such as H.R. 3684, that will be the catalyst to establishing a national environmental ethic.

As to the specific provisions of the bill, A.G.A. concurs in the testimony presented by Steven Kussmann, Chairman of the Alliance for Environmental Education, during the hearing before this subcommittee. The following is a summary of A.G.A. involvement in educational and partnership initiatives.

A.G.A. EDUCATIONAL INITIATIVES

A.G.A. is involved in a number of educational programs, that range from sponsorship of the Emmy-winning "Nature," the most popular program on the public broadcasting system, to specific student-oriented educational programs.

In cooperation with local gas utilities, A.G.A. distributes nearly one million pieces of instructional material each year to teachers across the country. The materials range from packets of experiments on the properties of gas and heat energy to activity guides on rare and endangered species. Another new program helps students understand the scientific process as it explores two different theories on the origins of natural gas.

A.G.A. also makes available to teachers, free of charge for one year, the publication, "The Natural Resource," which focuses on the role of natural gas and the environment. To promote understanding of our disappearing plants and animals, A.G.A. and the Nature Conservancy published a kit entitled "Rare and Endangered Species", which is also available free of charge to teachers.

The Association is very active in the Alliance for Environmental Education, an affiliation of more than 40 business, labor, health, education and environmental organizations that share a commitment to furthering environmental education. A.G.A. is providing financial and staff support for the organization's primary project -- the establishment of a National Network for Environmental Education. The Network, which also is being supported by the EPA, will provide in-service and pre-service teacher training, program adaptation and development, research on educational and environmental topics, and community outreach. The first centers in the Network were designated in May, 1989 and many of our member companies have taken an active interest in the project.

On the elementary school level, A.G.A. cosponsors the Science Teaching Achievement Awards (STAR) with the National Science Teachers Association. At the college level, A.G.A. has awarded scholarships, since 1970, to undergraduate students for study in natural gas-related fields. In mid-July last year, A.G.A. awarded $1,000 scholarships to 12 students, with half of the award as an

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outright grant and the other half as an interest-free loan. Eight of the current recipients are chemical and engineering majors, three are mechanical engineering majors and one is a petroleum engineering major.

A.G.A. is also involved with a new initiative by the American Society of Testing and Materials to develop standard definitions and guidelines for environmental education.

A.G.A. PARTNERSHIP INITIATIVES

The exchange of information is imperative to having an informed public. Public concern about the environment is growing. Individuals recognize that they must change the way they live, and they are looking for guidance. Clear and accurate information must be presented so that the public can make informed choices. In this regard, A.G.A., with member company support, has been active in the National Energy Foundation and the National Energy Education and Development Project. A.G.A.'s president, George H. Lawrence, serves as vice chairman of the National Energy Foundation, which distributes balanced educational materials on a variety of energy and environmental topics. The National Energy Education Development Project was formed in 1980 to provide a network for the disemination of national energy education materials through state and local educational institutions.

Industry partnerships with unlikely groups have become commonplace when the subject matter is the environment. A.G.A. participates in regular dialogue meetings that involve gas industry

representatives, environmentalists, and government policy leaders. Originally sponsored by the World Resource Institute, EPA recently took over sponsorship of these meetings.

In 1988, A.G.A. cosponsored a conference with the Sierra Club and the Texas General Land Office entitled "Natural Gas and Clean Air - An Alliance for America's Future." This conference was well-attended by congressional staffers, environmentalists and industry representatives. A.G.A. has also cosponsored or provided financial support for meetings held by the Climate Institute and Robert Redford's Institute for Resource Management.

A.G.A. is also involved in carrying our environmental message to government officials, the media and international environmental leaders. A.G.A. was a member of the organizing Committee for Earth Tech, an environmental technology fair and international policy forum held April 4 - 8 here in Washington. Earth Tech was sponsored by the Environmental and Energy Study Institute, in cooperation with Senators John Heinz and Al Gore and the Congressional Environmental and Energy Study Conference.

CONCLUSION

Our nation needs strong federal participation and leadership in environmental education. Over the past ten years other interest groups have taken the lead but the private sector cannot do it alone. It is time for the government to jump back in and play a critical role. We believe H.R. 3684, by establishing an Office of Environmental Education, provides a good start in accomplishing

this. The bill's recognition of the importance of technology transfer, its support of federal coordination, and the funding mechanism will greatly further environmental education.

A.G.A. and the gas industry are deeply committed to furthering economic and environmental quality goals through education and training. With all interested parties working together --industry, environmentalists, government officials and educators -- there will be an informed public to safeguard our environment in the future. We pledge our support to this subcommittee in passing the National Environmental Education Act.

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Written Testimony Submitted to
The Subcommitte on Select Education
of the House Committee on
Education and Labor
by Patty Finch, Executive Director,
The National Association for Humane and
Environmental Education, a division of
The Humane Society of the United States
April 19, 1990

Mr. Chairman and members of the Subcommittee, my name is Patty Finch and I appreciate the opportunity to submit the following testimony for the record as the Executive Director of the National Association for Humane and Environmental Education (NAHEE). NAHEE is an organization devoted to creating elementary and secondary education programs which promote respect for life and the environment -- humane education. It is a division of The Humane Society of the United States (HSUS), the world's largest animal protection organization. This testimony is submitted on behalf of NAHEE and the HSUS.

I want to commend Congressman George Miller for sponsoring H.R. 3684 as well as Chairman Owens and the entire Subcommittee on Select Education for conducting this important hearing.

To state that there is great need for the Federal government to renew its role in assisting and supporting existing environmental education programs and efforts is to make a gross understatement. Harvard professor E.O. Wilson suggested in his book "Biophilia" that, barring nuclear war, the worst thing that will probably happen on Earth is the catastrophic loss of genetic and species diversity by the destruction of natural habitats. In his view, this process -- already well underway -- is "the folly our descendants are least likely to forgive us."

Indeed, the loss of natural diversity seems destined to be nothing short of catastrophic. As of November 1989, U.S. Fish & Wildlife Service Records show that about 800 native species of animals and plants are in danger of extinction, and that some 120 others appear to have already vanished in recent years. At least 1,600 additional species could become officially listed in the near future, pending "more conclusive" information about their status. Of our vertebrates, The HSUS scientific staff estimates that 4-10% of all full species are in jeopardy in the U.S., based on current endangered species data and on the number of known species. In the case of plants, the Center for Plant Conservation considers approximately 3,000 species, subspecies, and varieties, some 10% of the total known, to be at risk of extinction. Meanwhile, thousands of "non-threatened" species decline in abundance.

The endangerment of species is symptomatic of a much broader crisis in nature. Even major ecosystem types, such as wetlands, tall grass prairie and old growth forest are being jeopardized or almost gone. The recent addition of nine Florida plants to the federal list of endangered species exemplifies the problem; rapid agricultural and suburban development continues to destroy the ecosystem of central Florida upon which these plants depend.

Globally, the current destruction of life is almost beyond belief. Extinctions are running as high as 5,000 to 10,000 species a year, largely as a result of deforestation in the species-rich tropics. The current rate of extinction worldwide may well be 10,000 times greater than what would be expected under natural conditions. While species become extinct en mass, the birth of new ones is seriously compromised, as habitats and thus gene pools become too small to permit speciation of many of the world's larger plants and animals.

Much is known about the value of biological diversity as a source of pharmaceuticals, fibers, petroleum substitutes, new or genetically improved crops, domestic animals, pest control agents, and other resources; and about the role of varied natural ecosystems in water purification, flood control, fisheries production, carbon dioxide absorption, and other ecological services. Much is also known about the importance of diverse natural environments to human psychological, spiritual, and cultural well-being. Yet we find ourselves as a society grossly ill-equipped to curtail the continuing destruction of nature.

There is always the temptation to argue that the solution to any problem is "more education". However, in this case, such arguments appear entirely justified. How many students can accurately name even a handful of U.S. endangered species and ecosystems, and describe the factors that threaten them? How suggestive is a recent survey (ERIC Clearinghouse 1987) showing that environmental education currently receives only cursory attention in our elementary and secondary schools?

The institutional approach proposed in H.R. 3684 which includes the establishment of an Office of Environmental Education within the Environmental Protection Agency and the establishment of an Environmental Education Advisory Council, appear to be appropriate measures to help

assure the effective implementation of the proposed program, but, as important as these meetings are, they are not nearly adequate. In addition to the understanding and awareness focus spelled out in the findings, Sec. 2(7) of H.R. 3684, the proposed program should add to its overall goal the two-fold aim of **preventing** environmental waste and destruction and arriving at **solutions** to environmental problems. In addition, the coordination of the proposed program with related programs should be spelled out in more detail.

The proposed environmental awards are appropriate, but inadequate. Any environmental concern in this proposal, whether it involves flora, fauna, geographical or other considerations, involves man, man's responsibilities, and reverence for life. When one speaks of the environment, one includes all living things in that environment. An award named after Albert Schweitzer, the originator of the concept of "reverence for life" should be included. His omission from the individuals commemorated by awards is a glaring one. Consideration should be given to presenting an Albert Schweitzer award to an individual student or group of students who has acted in a significant way to demonstrate responsible action and respect for the natural world. Today's students are tomorrow's citizens; all of the efforts by all of the adults involved in the proposal will be for naught if the students they are trying to educate are not affected in a constructive, lifelong way. Certainly, student initiatives should be recognized and rewarded.

Lastly, and most importantly, in view of your efforts to address key aspects of environmental education, we would like to suggest inclusion in the bill of the concept of respect for living creatures as a means of strengthening its efforts to instill in children a sense of respect and responsibility for the environment.

Humane education is far more than the generally-held belief that it is simply the teaching of kindness to animals. The concept involves a process through which children learn the inter-relationships and inter-dependencies existing in the natural world and how their individual actions affect these relationships. This helps instill in children a sense of compassion, justice and respect for all living creatures; the understanding and knowledge necessary to implement these principles; and an awareness of their responsibilities as citizens of the world. While these goals are implied throughout this vital bill, some amplification is needed.

Implicit in both humane education and environmental education is the need for responsible action and respect for the natural world. Indeed, our humane educational materials stress this. For instance, any study of ocean pollution includes the effects of pollution on creatures living in or near the oceans -- seals, dolphins, whales, birds, fish, reptiles, and other animals. Similarly, any study of the destruction of rain forests embraces an understanding of the impact of such habitat loss on a variety of species. Soil erosion, climatic changes, damage to ecosystems, and other concerns are presented in light of their effect on the living world and, hence, are understood by children.

I emphasize the point of understanding. In today's world, where

environmental mishaps make almost daily headlines, children can easily feel a sense of helplessness over the enormity of these disasters. But there is a subject which children understand and which can act as a bridge to comprehending the environment; that is, animals. The notion of "environment" becomes real to children through their affinity for the creatures which inhabit the forests, oceans, mountains and deserts. Kindness and respect for animals naturally translates into care for these creatures' homes, which in the broader sense is our environment.

Through their interest in and affinity with animals, children begin to grasp the natural world in its larger context and the impact of each individual's actions on the environment. However, the need to foster interest and affinity for animals does not end with childhood. Education programs designed for college students and adults should also include the concept of respect for living creatures. It is crucial to reach college and university students, in particular, as they make career choices. Environmental education should occur throughout life, but the bill's greatest impact for the near future would be to help imbue in young professionals a respectful understanding of the interdependence of all life, for theses are the people who will be making decisions in their jobs which will affect our environment.

In conclusion, NAHEE and the HSUS respectfully urge the inclusion in H.R. 3684 language which reflects respect for all living creatures as a necessary approach to the study of the environment. This will further underscore the proposed bill's vital goal: To instill in citizens of all ages respect for nature and a sense of responsibility toward the natural world.

Again, we appreciate the Subcommittee's willingness to let us submit our views for the record.

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JOHN T. GRUPENHOFF, Ph.D.

April 25, 1990

The Honorable Major Owens
Chairman, House Subcommittee on
Select Education
518 Annex 1
300 New Jersey Avenue, S.E.
Washington, D. C. 20515

Dear Chairman Owens,

Subject: STATEMENT FOR THE PUBLISHED HEARING RECORD ON H.R. 3684

Because it was not possible for me to testify before your committee on April 19, I request that you make this letter, with suggested amendments appended, and the article "The Case for a Senior Environment Corps" part of the published record of those hearings on H.R. 3684.

Mr. Chairman, I have been interested in environmental legislation since 1967, when I participated in the development of air pollution legislation as the Deputy Assistant Secretary for Health and Environment Legislation in the (then) Department of Health, Education and Welfare of the Johnson Administration. Additionally, in 1971 I wrote a book on health and environment education entitled, **Federal Laws: Health/Environment Manpower**; a portion of the book described the Environmental Education Act of 1970, including the history of hearings, the bill reports in the Senate and House, and the final legislation.

As you well know, that 1970 law was almost dead at birth, as only small yearly appropriations were provided for its authorization and reauthorizations until 1981, when the basic authorization legislation was permitted to lapse completely.

I have watched with considerable interest the development of the present proposed environmental education legislation. It occurred to me during its development, and after observing a large number of senior Americans who have expressed an interest in assisting in improving the environment of the nation and the world, that there was no indication within that legislation of the interests of senior Americans, that population of over 50 million over the age of 50.

As is indicated in the enclosed article, "The Case for a Senior Environment Corps", millions of experienced retired and semi-retired senior men and women, who are concerned about the increasingly polluted environment we are

leaving as a legacy to our children and grandchildren, are experiencing an awakened nurturing spirit and want to "do something" about the serious problem.

Most of the individuals over the age of 50 in this country completed their high school or college education more than 30 years ago, certainly no later than 1960. At that time there was very little public concern about environmental matters. Indeed, it was not until 1962 that Rachel Carson's **Silent Spring** was published, a book which began to arouse profound concerns in Americans about pesticides. Not until the mid-1960's was significant air and water pollution legislation passed. By that time most Americans who are now senior Americans were well on their way to their first jobs, and marrying and raising young children. As a consequence of the above, there was no real opportunity for these individuals to receive any kind of environmental education at the elementary, secondary or college level.

And yet, as I indicated above, many of these senior Americans want to assist in doing something about the environment, but they, and all of us, are almost overwhelmed by the daily deluge of bad news about the environment, so that many of them feel pessimistic and powerless to act. I believe that without the development of a comprehensive environmental education infrastructure as a basis for informed efforts by these senior Americans they cannot greatly assist to improve the situation.

The enclosed amendments to the legislation, which I recommend, would add nothing to the cost of the legislation or its fulfillment. All the elements are in place within the Environmental Protection Agency and the Federal agencies, as well as in senior organizations across the country, to begin a massive environmental education effort for senior Americans.

I strongly urge that these amendments, or amendments like them, be adopted.

While I, myself, believe that a national Senior Environment Corps would be the likely outcome of massive senior involvement in environmental education, that Corps is not itself necessary for the fulfillment of the objectives I lay out above.

You will find appended the proposed amendments and the proposal called "The Case for a Senior Environment Corps".

Please understand that I am volunteering my time and activities in behalf of this proposal and am not employed, nor represent, any senior or other organization in this regard.

Sincerely yours,

John [illegible] Grupenhoff

April 25, 1990

THE CASE FOR

A

SENIOR ENVIRONMENT CORPS

John T. Grupenhoff, Ph.D.*

The time has come to consider the development of a national volunteer Senior Environment Corp to assist in the protection and improvement of the environment.

There is no question of the need for such an apparatus. The extraordinary recent deterioration of the world environment, propelled largely by the enormous modern industrial boom, by the population explosion, fossil fuel use, and other factors, can only grow worse unless environmental protection efforts take hold, stem and hopefully reverse this decline.

An enormous underutilized human resource to help deal with this situation already exists within our population.

Millions of experienced retired and semi-retired senior men and women, concerned about the increasingly polluted environment we are leaving as a legacy to our children and grandchildren, are experiencing an

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* John T. Grupenhoff, Ph.D., has worked a quarter-century in Washington, for the first six years as a congressional aide, then as Deputy Assistant Secretary for Health and Environment legislation, and later as Director of all regional offices in the (then) Department of Health, Education and Welfare. For the last 19 years he has represented professional medical societies, volunteer organizations, and a medical center before Congress and the Administration. Co-authored *Federal Laws: Health/Environment Manpower*; founded the decade-old annual *National Health Directory* (continues as editor); published three other directories on Congress, Federal agencies, news media covering Washington, and national medicine/health organizations; co-authored *Nonprofits' Handbook on Lobbying*. He recently published the *Congressional Directory: Environment*.

awakened nurturing spirit and want to "do something" about the problem.

Many of them already possess talents and skills needed to lend an effective hand, best provided at the local community level. While some major environment problems must be dealt with by Federal legislation, such as regulation of vehicle emissions, acid rain, and toxic wastes, an enormous amount of "hands-on" work is needed in all communities of our Nation.

For example, do we need senior farmers, concerned about the deterioration of our agricultural lands, to work for sound farming practices? Thousands still residing in communities where they have lived their entire lives would respond.

Do we need forestry and tree experts to assist in reforestation in every area of our country, and to teach others? Thousands of retired nursery workers and foresters could step forward and with their help thousands more could be trained.

The scope of the untapped pool of senior talents runs the range of the problems -- former public health officials; former educators, especially those who have taught environmental subjects, biology, chemistry, or allied subjects; former park and recreation officials; watermen and water sports enthusiasts, including professional and sports fishermen; lawyers; veterinarians -- persons in former occupations from astronauts (who can teach us about the pollution of the atmospheric envelope of our planet) to zoologists would volunteer. They could also serve as teachers to the millions of seniors who have no education or training in

environment matters, as is noted below.

There is, however, a major weakness in the concept of a **Senior Environment Corps**, which also plagues the entire environment movement.

There is not now, and never has been, a systematic national environment education structure, including educational manpower and materials, in our schools and other institutions. All of us are overwhelmed by the daily deluge of bad news about the environment, so much so that it is only the very brave soul who does not feel pessimistic and powerless to act. Without the development of a comprehensive environment education infrastructure as a base for informed efforts, that situation will only grow worse.

Senior Americans, in particular, are disadvantaged in this regard. There are more than 50 million Americans aged 50 or over. nearly all of them completed their formal education through the college level about 30 years ago, in 1960 or 1961. There was almost no public awareness then about the serious nature of developing nationwide pollution, propelled largely by the enormous modern industrial boom (it is estimated that "since 1900, industrial production has increased by a factor of 50; four-fifths of that increase has occurred since 1950"*).

It was not until 1962 that Rachel Carson's book, **Silent Spring** was published, the first nationally significant warning of the effects of a polluted environment upon the earth, its birds and other animals, and

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* Jim MacNiell, Secretary General of the World Commission on Environment and Development, **Scientific American**, September 1989, p. 155.

the people who live on it. It as not until the middle to late 1960's that significant Federal efforts began to become effective -- by that time, those who are now seniors were beginning the early stages of their careers, their marriages, and raising their families, certainly not a time in life conducive to a systematic educational experience about emerging pollution problems. It is not surprising, therefore, to encounter many seniors who have no systematic understanding of the situation confronting us, much less having a coherent and well-established personal environment ethic.

For example, suppose it is suggested that seniors participate in national campaigns of stream and small river monitoring and improvement, or soil conservation, or safe pesticide use, or reforestation. How would we organize to respond? Where is the educational structure, and the materials, to help us learn what to do?

How will we learn, in a practical sense, to help improve our flowing waters, to protect fish and other aquatic life and the insects which provide nourishment to them, to prevent the overuse of pesticides and fertilizers which will wash from the land into these waters, or to discover, identify and measure industrial pollutants and their impacts?

How will we learn how to protect our soils, differing as they do in various geographical areas and conditions?

Who will teach us which species of trees would flourish in the various climates of our country, to help

de-pollute the air, to beautify, to stabilize our soils, and to provide for songbird nesting, among other benefits? How are trees to be planted, and when, and where? Who will teach, how will the willing workers be gathered, and what community facilities can be made available for the effort?

Also, these serious questions do not even begin to deal with the more basic issue of the teaching of a modern environment ethic.

It will be remembered that a Federal effort to develop such an educational infrastructure was begun in 1970; only small yearly appropriations were provided until 1981, when the basic authorization legislation was permitted to lapse completely. Congress is now considering its reestablishment on a very modest scale; the present proposed legislation does not speak of the particular needs of senior education.

So there is an opportunity, and a problem: the opportunity of a *Senior Environment Corps*, and the problem of a lack of an education/information structure necessary to its successful development.

Perhaps the problem could be approached in the following way: One or more of the existing retired persons organizations, already possessing an established massive information network for their membership, could spearhead the development of such a *Senior Environment Corps*, and call upon their members and chapters across the country to build public support for the development of the necessary national and community education apparatus to train willing participants.

Of course, impetus could come from the Congress by providing appropriate amendments to the

proposed environmental education legislation now being considered there, which would assist in providing environmental education to seniors. At the time of the signing of the bill by the President, perhaps there could be a gathering of acknowledged leaders of seniors at the White House to stress the importance to the Nation of the involvement of seniors, to set national goals, and to give assurances of national support and funding of an environment education infrastructure -- all would seem to assure immediate acceptance, not only among seniors, but also among the general public.

SUGGESTED AMENDMENTS TO H.R. 3684

For the development of senior environmental education:

P. 2, line 10:	After "diversity" add the word "loss".
P. 3, line 10:	Take out "educational" (because nonprofit organizations which are not primarily educational, such as the AARP, would become deeply interested in environmental education, and the word "educational" would limit that participation).
P. 3, line 19:	Take out "educational" for the reason noted immediately above.
P. 4, line 20:	Add (7) definition of senior American (get from Aging Committee).
P. 5, line 9:	After groups add, "including senior Americans".
P. 5, line 11:	After "organizations" add "and other nonprofit".
P. 12, line 10:	After priority add "including senior American environmental education".
P. 17, line 1:	Strike "fifteen" and insert "sixteen".
P. 17, line 10:	Replace "and" with a ;.
P. 17, line 11:	After "industry" insert "and one representative shall be appointed to represent senior Americans".
P. 18, line 24:	Add a new paragraph: "(5) describe and assess the extent and quality of environmental education available to senior Americans, and make recommendations thereon; describe the various Federal agency programs on environmental education which might be coordinated with EPA programs to further senior environmental education; and evaluate and make recommendations as to how such educational apparatuses could best be coordinated with nonprofit senior organizations across the nation, and environmental education institutions and organizations now in existence."

(continued next page...)

Suggested Bill Report Language

The Committee is particularly concerned that senior Americans be given opportunities in environmental education, and instructs the Secretary to assure that opportunities be included for them as to grants to nonprofit senior organizations, that one senior American representing those interests be included as a member of the Environmental Education Advisory Council, and that the survey of environmental education opportunities undertaken by the Council include those available to senior Americans, and that appropriate recommendations be made thereon.

April 26, 1990

The Honorable Major Owens, Chairperson
Committee on Educational Labor,
Subcommittee on Select Education
US House of Representatives
518 Annex I
Washington, D.C. 20515

Dear Representative Owens:

The Western Regional Environmental Education Council and the State of Alaska appreciate the opportunity to comment on H.R. 3684 the National Environmental Education Act. We endorse the Act, and thank the sponsors of the Bill and your committee for their recognition in preparing our citizens and country for a healthy future. The Federal Government's leadership and support has critically influenced environmental education in the past, and can continue to do so.

Environmental education needs federal leadership and H.R. 3684 provides a significant first step. The Bill, as presently written, would not make the best use of funds for environment, for education, or for the students of America. I recommend the following changes in the present Act:

Increase the portion of funds dedicated for the grant program. These grants will be the activities that really make a difference and effect any change.

Promote the fundamental change in education that national reports and panels are calling for in the programs of this act. Environmental educators are notoriously frugal people that can make a dollar go a long way, but real change will take restructuring of systems and demand resources.

Ensure that there are multiple training centers that also fund a multiplier approach for those who are trained to pass on their training and established strategies of change in their local communities and states.

Include other resource agencies in both the programs of the Act and on the Advisory Council. This is imperative, if this Act is THE National Environmental Education Act, as opposed to EPA's contribution to environmental education.

Either define environmentally broadly, using definitions from my other testimony or that of the North American Environmental Education Association, or do not define it at all. The present language is too limiting and may result in regulations that fail to recognize the global, total environmental approach of current successful endeavors.

State of Alaska, Department of Education, P.O. Box F, Juneau, AK 99811

Departments of Education and principal resource management agencies of the States of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Change the internship program to include teachers or teachers and high school students. EPA can offer their own college internships, as the US Fish and Wildlife Service, National Park Service, Bureau of Land Management and numerous other agencies already do; but THE National Environmental Education Act should established programs that can make a difference early when it is needed, by reaching teachers and/or high school students.

Similarly establish award programs that not only recognize excellence but also promote it nationwide. Expand the educator's award to identify leadership in every state and provide grant monies for those successful practitioners to expand their practices. The other, single individual awards are already offered by other groups who presented at your hearing.

I am writing for the Western Regional Environmental Education Council, an organization of representatives of resource and education agencies of the thirteen western states. Though a regional organization, the Council has been successful in promoting quality environmental education nationally through its two programs, Project Learning Tree and Project WILD. The Council was established with funds from the first Environmental Education Act. These funds acted as a catalyst to initiate programs which are now important components of environmental education in our schools nationwide. Both programs include supplementary curriculum materials and state sponsored training programs. They are the two most widely used conservation education programs in the K-12 classrooms in the U.S. Project Learning Tree is officially adopted in 49 states and provides a model for co-sponsorship with the private sector, in this case the American Forest Council. Project WILD will soon be adopted by 49 states and is co-sponsored by the Western Association of Fish and Wildlife Agencies, another example of a partnership which has benefitted U.S. students. Together these programs have trained more than 500,000 participants and reached more than 30 million students.

Federal leadership can lead to beneficial cooperation between states. On their own, it is difficult for states to work together on a national or regional basis. The Federal Government can facilitate this exchange and establish mechanism to encourage and disseminate successful programs. Environmental education is not a priority in all of the states we represent. Federal leadership and vision can encourage early childhood through college educators in all states to meet their obligation to prepare students to make decisions on environmental topics.

The present act should be modified to:

- establish true partnerships between resource and education sectors;
- ensure the most effective use of resources;
- fund what has already proven successful and programs of assessed need; and
- support fundamental change of school programs.

The critical issues of institutional approach for the implementation of the goals of the act, hinge on the ability of any institution to establish real partnerships between the education community and resource agencies, and to address all elements of environmental education. Environmental education of '80's and into the '90's encompasses the total environment, natural and human-made, and is global in scope. If the program and the Office of Environmental Education are housed in the Environmental Protection Agency, it will be important to ensure that the environmental topics are broader than the mandate of this single agency. The topics of environmental education include those of other agencies such as those in the Department of Interior and the Department of Agriculture.

The institutional sponsor will need to ensure a true partnership with all resource and education agencies nationally to locally. The present act does not adequately spell out the relationship with these other resource agencies, many of whom are currently contributing to environmental education. The U.S. Fish and Wildlife Service, for example, has grant programs that are contributing to wildlife education in many regions already. This program and others are workable vehicles with systems in place and should be considered when assessing the need and opportunities of environmental education nationally. Educators will be the audience and often the implementors of the programs of this bill.

The partnership established by this act, should allow and take advantage of educational expertise and leadership in these programs. Current educational research on effective instructional practices and curriculum development has much to contribute to environmental education. The education agencies, national, state and local, and the schools can provide this expertise, along with experiential knowledge of what works, and a practitioner's perspective on what is needed and what will make a difference.

The Advisory Council can play a critical role in establishing this partnership and the national vision of the program. The other Federal resource agencies should be included in this council, perhaps in the ex-officio role of the U.S. Department of Education. The National Science Foundation's Directorate for Science and Engineering Education, with its extensive experience in providing grants to education agencies and organizations, should also be included either in the Council or coordinated with in another manner. In establishing the Council, we encourage the Department to ensure that primary, intermediate and secondary education representatives are all included; that the university representatives include both education departments and representatives from fields associated with the environment, such as the sciences, political science, sociologists, rural development and geography; that representatives from both state education and resource agencies be included; and that the industry representatives include a range of businesses.

The Environmental Education Trust Fund appears to be a mechanism with the potential for providing sustained funding for the projects of this program. That sustained, dependable support is critical. Irregular funding plagued the programs of the first Environmental Education Act and undermined their success. There are many good programs with potential for benefitting large audiences that are not meeting their potential due to lack of adequate funding. Any funding mechanism for this program should provide for substantial resources over the long term. The present $15 million is a minimum.

The list of activities of the bill, teacher training, grant awards, internships and recognition programs have the potential for valuable contributions. The designated mix of these activities and specific implementation of them can be strengthened. There is a disproportionate amount of funding, 70%, dedicated to the activities of the Office and the single training program. This bill, as a whole, should fund currently under funded programs which have proven successful and new programs in areas of assessed need.

The training program, as described in the bill, would have limited impact nationwide. Establishing a single training program would reach too few individuals and does not recognize the regional differences in our environment and educational concerns. Such a program could be meaningful for the select individuals that are able to attend, but is not an effective use of 30% of the total resources of the program. Establishing a number of training programs regionally and funding continuing training experiences using the teacher-teaching-teacher multiplier model would enhance environmental education beyond the few individuals who could attend training at the centers. Programs of up to a month of sustained training, will limit the number of individuals reached, but provide a minimum of instruction to prepare the trainees to be real change agents back in their states and schools.

The training program and the other programs of the Office of Environmental Education should fit a broader definition that in the current bill. Environmental education includes awareness, knowledge, attitudes and skills; addresses the environment in its totality; and has as a goal motivating students to make responsible personal and citizenship decisions, and to take responsible actions which contribute to a quality global environment now and in the future. It is interdisciplinary in nature and includes instruction in science, social studies, including economics and political science, technology, mathematics and language arts. An environmental education lesson teaches not only the life cycle of a salmon, but the political and economic decisions that determine its management, the international ramifications of the management policies, and the natural and human threats to healthy salmon populations over the long term.

The grant program provides the greatest opportunity for making a difference nationally and should be funded at a level that reflects this potential and guarantees its success. The educational reform that is now needed in this country is comprehensive. Various reports on environmental education and other disciplines, most recently the American Association for the Advancement of Science's 2061 Report, substantiate the need for major change. True change must focus on the learning needs of all children, cover all grades and subjects, and deal with many components and aspects of the educational system. There is a new recognition that simply patching up one part of the system will accomplish little. Environmental education program, because of their holistic approach and interdisciplinary nature, are especially suited to meet the challenge of comprehensive change. The $100,000 cap on the grant program, is too limiting for these comprehensive programs. Most good programs will also require multiple year projects. Up to three to five year projects should be funded, with annual review. Again, the grant program should be careful to fund projects that supplement, rather than supplant existing successes. There are not enough resources available to recreate the wheel in environmental education. At the same time, we have not reached all audiences, nor addressed all areas of environmental education successfully, so there is definitely room for new initiatives.

As with the overall program, the grant programs should not be restricted to the mandate of the Environmental Protection Agency. The act allows the Administrator of EPA to establish priorities. These priorities should be based on a holistic definition of environmental education, not on the specific priorities of the protection offices of the agency. When identifying eligible recipients, the school systems certainly need targeting, but non-formal education from youth groups to media should not be neglected.

Again, as with establishing the training centers, localized training and curriculum programs which recognize the environmental differences across our country and provide local relevance should be encouraged. Depending on how it is interpreted in regulation, the present act may be too restrictive.

There are not enough resources to fund the eligible activities of scientific environmental research unless these are directed more specifically to education needs. As presently described, these grants would provide research opportunities to investigate environmental issues or pollution problems. Such research opportunities are, and should be, available through other programs.

The internship program can be a valuable component of the Act, but in only addressing college students, it is too limiting. Reaching students early is important in influencing career decisions. At the same time, it is teachers who reach the greatest number of students, who need to be retained in the profession, and who need to have their understanding of the environment enhanced. The U.S. Department of Energy's two internship programs for teachers and high school students provide good models for reaching these audiences. The Department of Energy's High School Honors Program sends seven students from every state to work in DOE labs in the summer. Similarly, Energy's Teacher Research Associate Program pays teachers for summer work in their labs. The environmental agencies could offer just as rewarding experiences for students and teachers. Resurrecting the Youth Conservation Corps with an emphasis on

environmental education would allow agencies to get needed work accomplished while providing meaningful job and educational experiences for our youth. The college intern programs now in the bill could be tied in with the Cooperative Higher Education Programs which now lead to jobs in the resource agencies.

The existing Presidential Award for Excellence in Math and Science Teaching provides a model for strengthening the educator award. This award program meets two objectives by providing recognition to deserving educators and also by encouraging the dissemination of quality teaching practices. The key elements that lead to this success are high visibility in every state, because each state has an awardee; validation of the importance of the practitioner by being for teachers only; a grant award program that provides $7500 to each recipient's school; and the stature and quality of the activities and sharing that occurs between all recipients on their trip to Washington, D.C. to receive the award. I encourage you to include as many of these elements as possible in the "Outstanding Environmental Educator Award." The National Association for Environmental Education and the National Wildlife Federation, to name only two, also sponsor a series of environmental education awards. The EPA awards should again supplement rather than supplant these existing programs.

I encourage you and your committee to support the National Environmental Education Act and its recognition of the important role of environmental education in this country. I also encourage you to modify the Act to ensure that it makes the most effective use of funds to support the environmental education need of the states and local communities. Forming true partnerships between the resource and education sectors, funding what has already been proven successful and programs of assessed need, and supporting fundamental change of school programs, will help us meet the goal of an environmentally literate citizenry.

Thank you for the opportunity to share my organization's perspectives on this important legislation. I would be pleased to provide any further information you or your staff need in your work.

Sincerely,

Peggy Cowan

Peggy Cowan
President
Western Regional Environmental
Education Council

339MEC

June McSwain

2613 NORTH QUINCY STREET
ARLINGTON, VIRGINIA 22207

April 27, 1990

Honorable R. Owens
Chairman
Subcommittee on Select Education
House Subcommittee on Education and Labor
U. S. House of Representatives
518 Annex One
Washington, D.C. 20515

Dear Congressman Owens:

During my career in environmental education I have previously been administrator for ten years of an industry-education cooperative environmental education award winning program that supplements the curriculum, kindergarten through grade twelve, implemented with state departments of education; served on the Board of Directors of the Conservation Education Association; served as Board member and three terms as president of the Alliance for Environmental Education and been a member of all of the conservation and environmental education organizations that have testified both during the Senate and House hearings on the Environmental Education bill now being considered by both houses of Congress. As an independent consultant I have worked with the Alliance for Environmental Education in building the basic strategy and groundwork for the National Network for Environmental Education. I also serve as an advisor to the Educational Resources Information Center for environmental education at Ohio State University, Columbus. I appreciate the opportunity to provide written testimony on H. R. 3684, National Environmental Education Act.

I will begin with two general observations and then move to more specific sections of the bill.

First, environmental education encompasses more than the natural world. The standard of living for humans on this earth has its basis in the natural world. How we treat our resources in relation to our cultural, social, economic and political decisions collectively and our lifestyle decisions individually will determine the quality of life for us and other living things with which we share this world. Any definitions of environmental education should, therefore, take into consideration human activity in this broad sense.

Secondly, many of our federal agencies have a role in the management of our natural resources. However, not all strongly support environmental and conservation education. The legislation should, at the least, encourage agencies to include environmental and conservation education more than nominally in the framework of their legislative mandate.

Specifics related to sections of the bill:

Section 5, #5: The Educational Resources Information Center for Science, Mathematics and Environmental Education (ERIC/SMEAC) at Ohio State University maintains a data base on environmental education materials. Duplication should be avoided. Duplication of the National Network for Environmental Education being established by the Alliance for Environmental Education and the programs of the centers related to that project that will be involved in teacher training, curriculum development, community outreach, research and evaluation should also be avoided.

The bill reads as though there would be one institution to receive an annual grant for the purpose of training educational professionals in the development and delivery of environmental education and training programs and studies. As I mentioned earlier I was a Board member of the Alliance for Environmental Education for years and president for three of those years. After the Intergovernmental Conference on Environmental Education held at Tbilisi, USSR, in 1977 and at the suggestion of Dr. Mary Berry, who headed the U. S. delegation to that meeting, the idea of one Center for Environmental Education at the national level was discussed at a follow-up national meeting. That discussion continued through the years with many voicing opinions pro and con as to the value of one centrally located operation. The outcome was the decision to develop a network of environmental education centers that the Alliance is now establishing. This was felt by the environmental education field to be the most efficient and effective diffusion strategy. The Alliance's experience should be considered before a final decision is made to fold these responsibilities into one central location.

Section 6, (c)(1) Without identification of what is available in curriculum and dissemination practices and an evaluation of those for individual merit and general merit as educational strategies a base line is not available for judging whether practicies are significantly improved over something that already exists in the field of environmental education. Without some determination of the needs of environmental education as well, there is no base line to establish whether grants are not only significantly improving environmental education but are also meeting a need.

Section 7 (b) The internship program should include teachers and middle (if possible) and high school students. This could make a difference early and be more effective in reaching a broader range of students through teachers and capturing and motivating student at an early age before drop out or turn off occurs. Partnerships should be encouraged with industry as well. Experiences with the industrial world can bring in the dimension of economics and profits related to management and use of resources and disposal of hazardous waste. The forest products industry and chemical companies come to mind as examples.

Section 9. As mentioned previously, many federal agencies have responsibilities for management and use of our natural and built environment. These should be included on the advisory council. All, and particularly those involved with the built environment -- roads, airports, housing -- impact on our natural resource base -- land, air, water, to name a few.

If our experience in the 1970s can be a guide, an initiative at the national level for environmental education would enhance the capability of programs at the regional, state and local levels. State departments of education at that time found it easier to persuade officials to infuse environmental education in the classrooms given visible evidence of concern and commitment at the national level. Environmental education is education in the broad sense and not only imparts information about the environment and develops civic responsibility but also supports fundamental changes in education that national reports and panels are demanding. It teaches critical thinking and decision making and other job related skills; it integrates the curriculum for more effective and realistic decision making unlike most other subject areas and brings everyday realism to the curriculum that can motivate students.

I commend the Committee and Subcommittee for their roles in this important area. If I can be of assistance in this undertaking please let me know.

Sincerely yours,

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